

**The conceptual and reflective skills
of analytic therapists:**

Empirical and theoretical studies
on clinical reasoning

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Thèse présentée en vue de
l'obtention du grade de Docteur
en sciences psychologiques et
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Résumé

Il existe une curiosité naturelle, tant de la part des patient·e·s que dans la culture populaire, pour ce qui se passe dans l'esprit des thérapeutes analytiques. Leurs mimiques minimales, associées à leur réserve proverbiale, ne font que rendre le mystère plus intrigant. En particulier lorsqu'un·e thérapeute analytique sort une interprétation qui parvient à nous éclairer, nous serions tenté·e·s de lui demander : "*Comment en êtes-vous arrivé·e là ?*". Les profanes comme les chercheur·euse·s seront surpris·e·s du peu d'attention que les thérapeutes analytiques eux·elles-mêmes ont consacré à cette question. Alors qu'il existe d'innombrables bibliothèques sur la théorie et la technique psychanalytiques, très peu de recherches – surtout d'un point de vue empirique – ont été menées sur ce que font réellement les thérapeutes analytiques pour "découvrir" (ou faire émerger) le sens. Comment certains éléments du matériel clinique sont-ils sélectionnés plutôt que d'autres, comment sont-ils reliés entre eux, ou interprétés d'une nouvelle manière ? Dans cette thèse, nous abordons cette question sous différents angles. Dans le chapitre 1, nous développons un nouveau modèle de raisonnement clinique psychanalytique. Ce modèle suggère que les thérapeutes analytiques de différentes écoles de pensée utilisent implicitement mais couramment 12 compétences conceptuelles et réflexives, que nous appelons les "opérateurs." Dans le chapitre 2, nous testons l'efficacité et l'acceptabilité du modèle des opérateurs en tant qu'outil didactique pour développer les compétences de conceptualisation de cas chez les étudiant·e·s universitaires en psychologie. Dans les chapitres 3 et 4, nous abordons certaines questions théoriques concernant la relation entre les opérateurs et la théorie, et entre les opérateurs et l'histoire. Enfin, dans le chapitre 5, nous élargissons notre modèle en examinant les conditions dans lesquelles le sens peut être amené à se manifester dans la thérapie analytique. Cela implique une vision qui dépasse le processus de raisonnement du·de la thérapeute et intègre le rôle d'autres "agents réflexifs" (patient·e et superviseur·euse). Nous concluons en abordant certaines questions fondamentales soulevées par cette thèse et en discutant les implications pour le domaine au sens large.

Abstract

There is a natural curiosity, both on the part of patients and in popular culture at large, about what goes on in the mind of analytic therapists. Their minimal facial expressions, coupled with their proverbial reserve, only make the mystery more intriguing. Particularly when an analytic therapist pulls out of their hat an interpretation that succeeds in clarifying things for us, we would be tempted to ask them: "*How did you arrive at that?*". It will surprise the layperson as much as the researcher how little attention analytic therapists themselves have devoted to this question. While endless libraries exist about psychoanalytic theory and technique, very little research – especially from an empirical point of view – has been conducted on what analytic therapists *actually* do to "discover" (or bring forth) meaning. How do they go about selecting certain elements of the clinical material over others, for instance, or link them together, or interpret them in a new way? In this thesis, we address this question from different angles. In Chapter 1, we develop a new model of psychoanalytic clinical reasoning. The model suggests that analytic therapists from different schools of thought implicitly but routinely use 12 conceptual and reflective skills, which we call the "operators." In Chapter 2, we test the effectiveness and acceptability of the operators model as a didactic tool to develop case conceptualization skills in psychology students. In Chapter 3 and 4, we tackle some theoretical questions around the relation between operators and theory, and between operators and history. Finally, in Chapter 5, we expand our model through a consideration of the conditions under which meaning can be brought forth in analytic therapy. This implies a vision that goes beyond the therapist's reasoning process and integrates the role of other "reflective agents" (patient and supervisor). We conclude by tackling certain fundamental questions that emerge from this thesis and by drawing implications for the broader field.

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Acknowledgements

Psychoanalysis teaches us that our longing for family is such that, wherever we go, we recreate one.

- a) *Jochem*. During one of our countless conversations over coffee, I remember you once said, talking about adolescents: "Sometimes, all that a person needs at that age is someone to believe in them." Although not a teenager anymore and since many eons, I remember using my rusty old Self-reflective operator and thinking that this is what you had done for me. Not only by having me on this project, but at every step of the way. You trusted the ideas that I was pitching to you, even those that would have made any other PI doubt the sanity of their students (keyboard warriors and cases conceptualizing themselves?). I felt free to "play" under your free-flowing but attentive gaze. It is chiefly through your belief in me, that I feel I was able to grow.
- b) *Marie-Anne*. During my night-sea journey in the winter of 2022, and then throughout that difficult year that followed, in which I began to despair of my ability to continue (to work on this thesis, to train as an analyst, to do anything in fact), you were the mast for this *nave in gran tempesta*. I remember you citing Rilke's poem: "Spring does come, but only for those who are patient."
- c) *Little birds*.

Hub. My guardian angel since the lockdown, who adopted me (as extraverts often do with their introverted pals), and took me under his wing. I will always cherish the memory of us sipping tea (before moving on to stronger brews) in Parc Cinquenaire,

or sharing our life stories in the whiteness of Ostende beach. You are the person I am most indebted to for making my time in Belgium so homely. You introduced me to people who are now very dear to me, helped me to be less afraid ("il faut sauter, quoi"), taught me to pitch a tent and become more of a man of the world.

Lise. The fact that you were the first (and only?) to humor me on the "Why This Matters To Me" frenzy tells me a lot of what I need to know about you as a friend. From romcom recommendations to chats about nothing less than the purpose of human life on earth, you've been a real partner-in-crime in surviving adult life. I admire your "street knowledge" and look up to you.

Cam. The chirpiest bird of all. How much water has passed under the bridge since that match when Italy was playing against Belgium! I'd rewind to live it again, with all that was in there. "To influence someone, you need to let yourself be influenced by them" – is this quote even correct? We don't care. But that's what I feel has happened with you, and is still happening now.

Sam. I deeply appreciate you. If I compare the night at Chez ta Mere to where we are now, I am so glad I've had the opportunity to know you. Writing the acknowledgements feels a bit like asking to not "make me sing" (assuming a dramatic center of attention). And that is what I like in you, that you are always so modest, despite all that you know and have studied.

- d) *Camille ("male").* Knowing how you'd hate being called a bird of any size, here is a special section for you. It's rare enough to go through life with the gift of a few real friends, but I was granted the privilege of making one more in Belgium. I've always found your life to have the

flavor of a 19th-century novel, and I proud myself in being one of its most affectionate readers – so write on.

- e) *Manu*. You've been the face of my experience at UCLouvain. Since my first day here, I felt welcomed into a space where my word had as much weight as yours or Jochem's, and where everyone could express their thoughts without fear that they'd be picked apart. Getting to know you better, I saw in you someone who (just like me) was always searching, and was not afraid to call into question their assumptions. That is so rare to find in research, although of course it shouldn't be.
- f) *Marie, Esther, and Nicholas*. Coding a trillion case conceptualizations would have felt impossibly duller without our conversations around Jung, shamanism, and ritual feathers. To Marie, in particular, this thesis owes much. For she has really been there with me in the long hours, and then also in the "moment of truth."
- g) *Uni*. Thanks also go to my *comité d'accompagnement*, Reitske and Antoine, who think and do psychology against the tide. To Valerie, Nicolas, Adri, and all the other members of the lab who have come and gone. What a splendid context to work in, this was. To the PhD community (Celine, Arthur, Yorgo, Marbella, and all the others who are too many to list) and the technical and administrative staff (Dominique, Nadine).

But something else that psychoanalysis teaches us is that there is nothing quite like your actual family, the one you are born into, and to them go my last and deepest thanks. This last achievement – as I find the courage to step out of the placenta of this "alma mater" – is dedicated to you.

General introduction

Professional reasoning refers to the use of reason – as the human capacity to process information, make decisions, and plan actions – for the purposes of professional practice. Models of professional reasoning seek to account for how professionals *think*, depending on the purposes and demands of their practice (e.g., medical reasoning, legal reasoning). These models, in turn, rest on more fundamental sets of assumptions about the nature of professional knowledge and the methods through which it can be attained. These sets of assumptions are called “epistemological paradigms,” a term that was originally proposed to account for how scientific practice works (Kuhn, 1962), but was later applied to other kinds of practice as well. While models of professional reasoning are explicitly discussed in the relevant literature, epistemological paradigms tend to act implicitly and thus remain somewhat protected from critical scrutiny. Yet, at the same time, so much depends on them as concerns, notably, the way in which future professionals are trained.

In the debate around epistemological paradigms and their more or less veiled influence on the applied professions, the work of three authors assumes particular significance: Carlo Ginzburg, John Forrester, and Donald Schön. What is common to these authors is that they all criticized a certain “positivistic” epistemology of practice, which they see as dominating the applied professions since the birth of modern Western universities. In contrast to such prevailing paradigm, which would fail to account for what professionals *actually do* in their everyday practice, these authors have each proposed an alternative epistemological paradigm. Ginzburg (1980) criticized what he calls the “Galilean paradigm” and proposed a “conjectural (or semiotic) paradigm”; Forrester (1996) criticized what he calls “statistical thinking” and proposed the paradigm of “thinking in cases”; and Schön (1983) criticized what he calls “technical rationality” and proposed the paradigm of “reflection-in-action.”

Briefly put, the main characteristic of the positivistic paradigm that these authors criticize is that it views practice as consisting in the application "from above" of some general knowledge which has been obtained from scientific research. In contrast, they stress that the nature of professional practice, in most fields, consists in working with particular or unique situations and under conditions of uncertainty. The practitioner deals with the manipulation of "signs" or "clues" (pieces of information) that have to be selected, connected, and interpreted, generating knowledge mostly "from below."

Schön (1983), in particular, emphasizes the epistemological status of *skills*, which tends to be neglected under the paradigm of technical rationality. Skills are what mediates between the general and abstract knowledge that a professional acquires through training (e.g., theory), on the one hand, and the demands that are faced in the handling of unique cases, on the other. Skills are not abstract general knowledge, but knowledge "in action." In the modern university, the acquisition of skills is typically confined to the later stages of professional education (e.g., professional stages, placements, or internships), hierarchically subordinated to the acquisition of the "basic science." Skills appear in this paradigm as "an ambiguous, secondary kind of knowledge" (p. 28), which is difficult to place. For if skills:

could be described in terms of theory or technique, they would belong to one or another of the components of the hierarchy of professional knowledge. But if they are neither theory nor technique, and are still a kind of knowledge, how are they to be described? (p. 46)

Because of their mediating role between abstract knowledge and practice, skills figure as a "residual category" under technical rationality and tend to be neglected (p. 46). But in a circular way, if modern universities are not properly training professionals in the acquisition of skills, this is also "because such training would have to be grounded" in a *description* of those skills which, because of the very influence of this positivistic paradigm, "does not yet exist" (p. 47). As a result, not only the skills that are central to everyday practice are not taught, but very little is known about them.

In this PhD thesis, we wish to fill this gap with regards to the *conceptual and reflective skills* of analytic therapists. In this professional field, too, the influence of technical rationality has turned the spotlight on "theory" (as the general knowledge to be applied), and away from the skills that are actually mobilized by analytic therapists in their everyday work with unique clinical cases (cf. Chapter 3). Thus, although Ginzburg (1980), Forrester (1996), and Schön (1983) all collocate psychoanalytic thinking squarely within their paradigms of "clue-based reasoning," "thinking in cases" or "reflection-in-action," respectively, we still know very little about the specific reasoning skills used by analytic therapists. For if analytic therapists "think in cases," so do doctors and lawyers (Forrester, 1996); and if analytic therapists "reflect-in-action," so do architects and managers (Schön, 1983). Thus, to return to our initial distinction between "paradigms" and "models" of professional reasoning, having established that psychoanalytic thinking is best construed within a non-positivistic paradigm, what appears to be missing is precisely a *model* of the professional reasoning of analytic therapists. How do analytic therapists go about thinking "within cases"? What particular set of skills do they mobilize "in action"?

The foregoing can be reformulated by saying that what we are interested in is the psychoanalytic *logic of discovery*. The term "logic of discovery" also comes from the philosophy of science, and refers to the process by which a new piece of knowledge is arrived at. The term originally arose to account for how scientific hypotheses are born (Popper, 1959), but was later applied to the general question of how knowledge is generated in a variety of professional fields. How does a historian, for instance, attain a "piece of historical knowledge," or a detective arrive at a hypothesis concerning the most likely culprit of a crime? As Eco and Sebeok (1983) explain, since the late 70s, the logic of discovery "has become a burning topic of focal concern for the theory of knowledge," not only in the so-called hard sciences, but also in fields such as philosophy, semiotics, or history (p. ix). This PhD is inscribed within this larger debate, but with a focus on the logic of discovery of analytic therapists. Just as the question

can be posed of how a historian attains a piece of historical knowledge, so one can ask how an analytic therapist arrives at "a piece of psychoanalytic knowledge," such as an interpretation (Stänicke et al., 2020, p. 298). On the other hand, in this thesis, we shall not be concerned with the question of the psychoanalytic "logic of justification," which regards the criteria by which a piece of knowledge can be said to be "true" or "false," "right" or "wrong." Doing so, in fact, would require addressing additional epistemological questions around meaning and truth, to which we shall only briefly return in Chapter 3, and then again in the Discussion. Rather, our question is, more modestly: *What is the process by which analytic therapists are able to arrive at an understanding of the clinical material?* Throughout the thesis, we shall refer to this process as "clinical reasoning" (CR).

In this thesis, CR is assumed to be a never-ending process. Not only because the understanding that one can attain is always bound to be partial, due to the general complexity and "opacity" of the clinical material. But also, and more simply, because the clinical material *keeps coming* in with every new session, demanding to be made sense of. In fact, although this process is framed here in terms of "discovery," it may just as well be described as a process of "clarification". For what interests us is not so much the "eureka" moment by which a therapist suddenly arrives at an interpretation (as the stereotype would want the scientist to be arriving at the solution of, say, a mathematical problem). Rather, what interests us is the *gradual process of struggling with the clinical material in its opacity and darkness*, until some light may be slowly brought to it – a process that includes also the work that is "unwittingly" made towards the light, while being in the dark for long periods of time (cf. Chapter 5). Starting from the session "zero" with the patient, as the clinical material accrues, hopefully some knowledge does too. This process may start with simple organizing operations, and lead in time to increasingly complex forms of understanding.

1. Bion and the logic of discovery

There are different possible theoretical starting points for approaching the logic of discovery of analytic therapists. Some authors, for instance, approach the topic through the concepts of “working models” (Peterfreund, 1975; Storck et al., 2021) or “thought-models” (Stänicke & Lindstad, 2020). In this thesis, instead, we are going to frame our inquiry as an expansion of the work of British psychoanalyst W. R. Bion. Unlike most analytic authors, who contributed in their writing to the understanding of clinical phenomena, a large part of Bion’s work was devoted to understanding how analytic therapists *think about* clinical phenomena. This work, which occupied especially the “early” Bion, finds expression in his trilogy *Learning from experience* (1962), *Elements of Psychoanalysis* (1963), and *Transformations* (1965). The purpose of this introduction is thus to familiarize the reader with Bion’s ideas, as they form the basis for our own inquiry.

The preoccupation of this early Bion was precisely the process of discovery, as the therapist’s “progress from observation to interpretation” (1965, p. 49, emphasis added). This process of “illumination” (p. 49) or “clarification” (p. 141) of the clinical material was defined by Bion also as a process *growth*, as in “the growth of a mental formulation” (p. 42). This “growth process” follows the therapist’s “progression” from simple mental acts to more “complex combinations of objects” characterized by “increased sophistication” (p. 43). As noted, the process is not sudden but progressive, as it entails long periods where work is being done without even noticing. For instance, Bion writes about a case in which “awareness grew gradually so that it was difficult to say, when an aspect had been clarified, what material, in the immediate circumstances, was sufficient to sustain the burden of interpretation I wished to lay on it” (p. 24).

The language used by Bion in this and other quotes reveals his awareness of the larger epistemological debate mentioned above. Terms such as “scientific quality,” “supporting evidence,” or “burden of interpretation” immediately evoke the problems of the philosophy of science,

which include working out how clarification occurs (discovery), but also weighing the “degree of speculation” (p. 24) of a claim against the available evidence (justification). Bion (1963) directly cites epistemological works, such as Hanson’s *Patterns of Discovery* (p. 82) or Popper’s *Logic of Scientific Discovery* (p. 88), and establishes constant parallels between scientific and analytic inquiry¹. From the mathematician Poincaré, for instance, Bion (1962) borrowed the notion of “selected fact.” In *Science and Method* (1908), Poincaré dealt with the question of how facts are selected by scientists or other professionals. Every practitioner “is forced to make a selection. The first question, then, is to know how to make this selection” (p. 9). For Poincaré, this question, which “confronts the physicist as well as the historian,” is the question of the guiding principles to which professionals conform “instinctively”: to better understand these principles, he suggested to “observe” practitioners “at work” (p. 9).

If Poincaré was interested in uncovering “the psychological mechanism of discovery” (p. 9) employed by scientists, and mathematicians more specifically, Bion (1962) posed the same question in relation to analytic therapists. Starting from the myriad of elements constituting the clinical material, which are laid down by the patient since the first session, how is a therapist able to determine which ones should be accorded particular significance? This question relates to what in Chapter 1 we shall call the problem of *filtering*. But a related problem is that of *linking*. Again, starting from the elements of the clinical material, how is an analytic therapist able to connect, say, this element with that one? Bion refers to the latter mental act as that of “binding” elements of the clinical material that are found to be in “constant conjunction” (1965, p. 14), or, more simply, as the establishment of a “link,” although this term appears in his

¹ Putting psychoanalysis in a dialogue with the philosophy of science can be seen as Bion’s original contribution, although for Ahumada (2006) the “idea of the coincidence of therapy and enquiry” can already be found in Freud, who saw analysis as “part and parcel of scientific work” (p. 128).

work also with a different meaning². But besides filtering and linking, yet another question is how analytic therapists are able to *transform* elements of the clinical material. Through analytic interpretation, in fact, an element that has a certain meaning in everyday thinking is typically given another one. Bion (1965) sometimes uses the term "transformation" as a *pars pro toto* for the process by which therapists build a verbal representation of the clinical material ("interpretation is a transformation," p. 4); just as sometimes he uses "link" as a synonym for interpretation *tout court* (Bion, 1959)³. But all of these can be seen as different mental acts which jointly contribute to the "development of meaning" (Bion, 1965, p. 102). A *modularity* exists in the CR process, such that low-level operations of different kinds can be seen to lead to "partial" interpretations, which in turn are incorporated into "fully-formed" case conceptualizations (cf. Chapter 3).

Be it the selection of a fact, the establishment of a link between two or more elements, or the re-assignment of their meaning, the question is how do analytic therapists pass from "the field of incoherent elements" that form the clinical material to the emergence of an experience "that gives coherence ... to the hitherto incoherent" (Bion, 1963, p. 103). In his account of "the analyst's mental working," Bion describes the therapist's experience as the confrontation with "a number of discrete particles unrelated and incoherent" (p. 102). These particles are the elements of the clinical material: "The patient may be describing a dream, followed by a memory of an incident that occurred on the previous day,

² The term is also used by Bion to indicate the types of relation that a subject can have with an object. Bion (1962) lists three such links: H (hate), L (love), and K (knowledge). The link relevant to discovery is K. As Bion (1965) notes, ideally a therapist should strive to have towards their patient a relation centered on K, and not H or L, which may "obtrude" understanding (p. 70). K is a relation characterized by "curiosity" (p. 67).

³ The focus on transformations derives from Bion's analogy with functions, where "x" can be said to be *transformed* into "y", but also from his analogy with painting: "By analogy with the artist and the mathematician I propose that the work of the psycho-analyst should be regarded as transformation" (1965, p. 6). The analogy with painting illustrates what we shall call in our model the "Mimetic operator" (cf. Chapters 1 and 4).

followed by an account of some difficulty in his parents' family" (p. 102). From this cloud of particles, over time, there emerges a sediment or precipitate of meaning; from the state of "fragmentation" there ensues a move towards "integration" (p. 42). Integration corresponds to the process of particles "coming together" in a meaningful way, as opposed to being "dispersed" (p. 42). For instance, as far as the question of filtering goes, from the "uncertainty cloud," a mental process commences of "closing on to one elementary particle" (p. 42).

Importantly, however, for Bion the process of moving beyond fragmentation towards integration can only occur if the therapist is willing to *withstand* fragmentation for shorter or longer periods of time. Bion formulates this by saying that the therapist must even actively "ignore" the "coherence" that the elements appear to have in the patient's "recital," "so that he is confronted by the incoherence and experiences incomprehension of what is presented to him ... This state must endure, possibly for a short period but probably longer, until a new coherence emerges" (p. 102). Bion makes a central point here, to which we shall return to in Chapter 3. His idea is that the clarification of the clinical material requires, as already noted, prolonged periods of grappling with darkness. Only working through this stage, can an analytic therapist slowly be able to start developing meaning through their CR. This point is important because Bion associates not-knowing with unpleasure, and the acquisition of understanding with pleasure. It follows that the process of CR requires on the thinker's part a certain tolerance for that frustration which is inherent in the knowledge process.

In presenting the knowledge process in this way, Bion comes close to the philosopher C. S. Peirce, who is also at the forefront of the epistemological debate mentioned by Eco and Sebeok (1983). As Saller (2017) explains, for Peirce just as for Bion, discovery is associated with a "pleasant bodily emotion" since it "unifies possible predicates to a single one" (p. 200). To transform "unspoken, prelinguistic" meanings "to the symbolic level" is essential "for our emotional balance" as human beings, for "when the synthezizing effect" of understanding is "missing, anxiety arises" (p. 201). Bion

(1965) compares the state of confusion characteristic of not understanding to St John's "night of the soul" (p. 158). Achieving "the state of naivety" and abandonment that only can prelude the development of meaning "involves admission of the negative dimension and is opposed by the fear of ignorance" (p. 159). Human beings naturally fight this unpleasurable experience, and thus "at the outset there is a tendency to precocious advance" towards a formulation that is "intended to deny ignorance – the dark night of the senses" (p. 159). Instead, for Bion, it is essential to be able to tolerate the frustration that comes with not understanding, while at the same time striving to progressively move out of it. This paradoxical attitude, as we are going to argue in Chapter 3, is central to psychoanalytic CR. Key to this process are both the admission of ignorance and the desire to know – and none of these two poles should be suppressed. On this point, Saller (2017) emphasizes Bion's election of knowledge (K) as a basic instinct, alongside the Freudian instincts of love (L) and hate (H) (cf. footnote 2). For both Peirce and Bion, fundamental is, on the one hand, the endurance of that "uneasy and dissatisfied state from which we struggle to free ourselves," but which is needed to periodically open up new perspectives; and, on the other, the capacity to "learn from experience," especially when such learning is forced on us by the encounter "with an outer or inner reality that opposes us" and requires us to recognize "a new fact" (p. 201). Struggling with uncertainty, but also learning from experience: this is the general model that one finds in Bion. But to understand more specifically why it is important to tolerate frustration, and how frustrating experiences can be transformed into understanding, let us turn briefly to Bion's theory of thinking.

1.1 A psychoanalytic model of thinking

Bion's inquiry into the analytic logic of discovery was preceded by a theory of thinking that he proposed in 1961. To illustrate it, let us use an example. Suppose that you are going about your day, when suddenly you notice an

unpleasant sensation in your body: a slight chest pain and a certain shortness of breath. As a way to make sense of this experience, you may start considering its immediate context – is this because of the flight of stairs I have just climbed? Or, if this is not enough, you may go backwards (to consider what you did or ate last night), or forward (to consider whether this is not some anticipatory anxiety for that difficult meeting you have scheduled in the afternoon). But suppose all this does not quite explain the intensity of your feeling, and, what is worse, a mild discomfort in your left arm is added to the list of symptoms. Now if you a doctor, or in any case someone who happens to know what the prodromal signs of a heart attack are, then you may add up the information and give it a coherent meaning, before acting on your understanding and calling an ambulance. But let us suppose that you have no such instruments to make sense of what is happening to you – still, the unpleasant experience persists. In such circumstances, your lack of understanding may even intensify your pain, giving it the color of what Bion (1962) calls “nameless dread” (p. 96). The dread is “nameless” precisely because you have no name to give your experience. You have no way of effecting that progression from a confusing and unpleasant experience to “understanding.”

In his theory of thinking, Bion assumes that this is the primal condition in which infants finds themselves. The infant experiences states of need or frustration (such as hunger, thirst, or sleep), before having the capacity to make sense of them and thus deal with them. Bion (1961) expresses this by saying that human beings have thoughts before having the capacity to think them, or that thinking is an apparatus emerging to deal with pre-existing thoughts. This paradoxical formulation, however, is better understood considering that “thoughts,” in Bion’s use of the word, are not refined mental products, but on the contrary, “raw” experiences (confusing states of need/frustration), such as the symptoms of the heart attack in our example. These unprocessed and unpleasant experiences that have to be made sense of are what Bion also calls “beta-elements.” The prototype of a beta-element is the infant’s “fear of dying” (1962, p. 97). But more

generally, a beta-element is the perception of "a need not satisfied" (1962, p. 34). This state, which Bion also calls the "no breast" (i.e., a lack of satisfaction), would be perceived by the infant as the same as a "bad breast", because all "objects that are needed are bad objects" (p. 84), since "by not being there", they give "painful feelings" (p. 57).

Since "thoughts" are experienced as bad internal objects, then the infant will want to get rid of them precisely "because they are bad" (p. 84). Bion thus suggests that the evacuation of thoughts will occur through a variant of the mechanism of projective identification which he terms "realistic," to mark its non-pathological nature. Through this mechanism, the infant will project its thoughts into the mother – typically, by crying and thus eliciting a maternal response. The mother will then take the thought upon herself, interpret its meaning, and return it as a need satisfied. In this way, after a "sojourn" in the breast, the beta-element will be transformed into a so-called "alpha-element," and the bad breast re-introjected as a good one: i.e., an experience that "has become tolerable to the infant's psyche" (p. 90). In our example, this process is comparable to a doctor correctly interpreting your symptoms, calling an ambulance, and having your state of "need" attended to through proper care.

Bion also terms "contained" the beta-element that is projected and "container" the object into which the contained is projected (p. 90), although the terms are also used to indicate simply the infant and the mother, respectively. According to this model, the process of "thinking" (as the evacuation of beta-elements and their re-introjections as alpha-elements) would originally occur through the mediation of the mother/container, and would only be internalized with maturation. Internalizing the process means developing one's own "alpha-function," as that apparatus for thinking which needed to emerge to deal with pre-existing thoughts. The activity of interpreting experiences, once "shared by two individuals," is now "installed in the infant" (p. 91). In our example, this means that the person does not need a doctor anymore to make sense of their symptoms, but can "self-diagnose" a new attack and act on this knowledge.

For the alpha-function to be successfully internalized and a capacity for thinking developed, two variables are of interest. The first is the (infant's) *tolerance of frustration*. Depending on this variable, the subject will opt either for a *modification* of frustration (satisfaction through action in reality) or for its *evasion* (satisfaction through hallucinatory means; Bion, 1961). The greater the tolerance of frustration, the greater the likelihood of the subject opting for the former strategy. The second variable is the (mothers') *capacity for reverie*, defined as a "state of mind which is open to the reception of any 'objects'", that is to say, a receptiveness "of the infant's projective identifications" (1962, p. 36). The greater the mother's capacity for reverie, the "better" the object that will be internalized by the infant as the carrier of their future capacity to understand themselves and the world.

Bion's theory builds on Klein's theory of projective identification (1946) and Freud's theory of the principles of pleasure and reality (1911)⁴. But his original contribution consists in suggesting that, since the interaction with the mother is the basis for the infant's development of a capacity for thinking, then the exchanges with her can be generalized as a model of how the *knowledge process* works as such. Even in adult age, knowing remains for Bion *a relationship* to the (internalized) breast as the first provider not only of food, but also of "meaning" (1965, p. 79).

1.2 A model of psychoanalytic thinking

Bion's theory of thinking provides a framework to conceptualize the exchanges between therapist (as breast/container) and patient (as infant/contained). The analytic relation, in fact, is also a knowledge relation: "attempting to establish a K link ... is after all the case with any interpretation" (1965, p. 61). The patient, especially in case of low tolerance for frustration, will tend to evacuate

⁴ All references to Freud in this thesis are to *The Standard Edition of the Complete Psychological Works of Sigmund Freud* (abbreviated as SE), published by Hogarth Press in 1953–1974 (J. Strachey. Trans. & Ed.).

their beta-elements, as the infant does by crying. And it will be the therapist's task to take the "thoughts" upon themselves through their capacity for reverie, and return them satisfied, i.e. transformed into alpha-elements. But this transformation will require, in turn, a certain tolerance by the therapist of the incoherence that is being pinned on them. Furthermore, this transformation, which coincides with the "development of meaning" (Bion, 1965, p. 102) through CR, will be possible at first predominantly through the therapist's alpha-function. But with time, it is supposed to be internalized by the patient, in the form of a capacity for "self-analysis." The central question of this PhD, then, can be reformulated as follows: *How does the therapist's "alpha-function" work?* To consider this question, we need to move from Bion's general theory of thinking to his theory of clinical thinking.

In *Learning from Experience* (1962) Bion sketched what he calls a "theory of functions," and which is effectively a theory of psychoanalytic CR. The aim of this theory was precisely to look at the functions that make up the therapist's alpha-function, and allow them to carry out their work as "breast," which consists in the interpretation of meaning. What is often overlooked, in fact, is that the alpha-function, as Bion conceptualized it, is not a single function, but rather a "collection" of functions. As Ogden (2004) notes, Bion's alpha-function is a "*set of mental functions* which together transform" beta- into alpha-elements (p. 859, emphasis added). And yet, as Ogden also remarks, this set of functions is "*as yet unknown*" (p. 859, emphasis added), for Bion did not go as far as to provide a systematic description of the functions involved in the therapist's development of meaning, a task that we intend to pursue in Chapter 1 of this thesis.

In *Transformations* (1965), Bion starts referring to his project as a "theory of transformations," in place of a "theory of functions," but the central idea remains the same. As noted, by "transformation," Bion simply means the development of a verbal representation of the clinical material, typically in the form of an interpretation. In both cases, it is about helping the patient think through their experience: "The psycho-analyst tries to help the patient to

transform that part of an emotional experience of which he is unconscious into an emotional experience of which he is conscious" (p. 32). Bion's theory of functions, later a theory of transformations, is thus a theory of clinical thinking as the process by which a therapist is able to transform the clinical material submitted to them; this occurs through a series of mental functions which over time may be integrated by the patient as the capacity to learn from their *own* experience.

Bion's theory of functions is introduced in Chapter 1. But it may be worth saying something here about the general framework that Bion uses to think about functions, which we retain in our model of CR. This framework is inspired by Kant. As Stänicke et al. (2020) note, the influence of Kant's theory of knowledge constitutes an implicit basis for psychoanalytic epistemology at large, including Freud, Winnicott, and Klein; however, in the case of Bion, this influence is particularly explicit, as Bion repeatedly refers to Kant. What Bion takes from Kant, in particular, is the distinction between form and content. This distinction can be illustrated with an example. When I "know" (perceive) a physical object, such as the laptop that lays in front of me, there is a certain content coming from my experience (the sensory impression of a grey, squared, solid shape). Yet, my act of knowing is made possible by certain "forms of sensibility" (Kant, 1781/1998, p. 220), such as time and space, which are called upon my act of knowing not only this particular object, but *all others* (for instance, also the coffee mug sitting beside the laptop)⁵. In other words, as the *content* of my knowing changes (now a laptop, now a coffee mug), the *forms* do not. And this is why a theory of how we know (an epistemology) can take us a long way under the methodological decision to ignore the differences in content in favor of the commonalities in form. Instead of letting ourselves be "hypnotized" by content, which, due to its *variability*, is much more easily appraised, we focus on those forms which, due to their *ubiquity*, typically escape our attention, but are the conditions to all knowing.

⁵ Although the forms of sensibility are not the same as the 12 "categories" of understanding, the difference is not essential to our example.

The distinction between form and content is the conceptual bridge from Bion's theory of thinking to his theory of functions. In fact, on the basis of his conceptualization of the dynamics between breast and infant, Bion (1961) proposes a distinction in the structure of thinking, which can be stated as follows in simplified form:

$$\text{preconception} + \text{realization} = \text{conception}$$

In this formula, the "preconception" refers to a state of expectation which Bion compares to the infant's a priori need for the breast (e.g., hunger). This need is "a priori" (p. 179) in the sense that it precedes knowing what a breast is or that one exists; in this sense, the preconception is also said to be "inborn." The "realization," on the other hand, is the experience of encountering a breast, and corresponds to the "a posteriori" aspect of the formula. Finally, the "conception" is defined by Bion as the result of the "mating" (p. 181) between preconception and realization. It corresponds to the "knowledge" of the breast as it stems from satisfying the inborn state of expectancy (the a priori need for the food) with the actual experience of receiving its milk (the a posteriori satisfaction of the infant's hunger). In proposing this formula, Bion explicitly compares the preconception to Kant's "empty thought" (as a formal potentiality that is yet to be actualized; 1961, p. 179), and the realization to Kant's "primary" and "secondary qualities" (see also 1962, p. 69).

But the same Kantian framework appears in different guise in Bion's theory of functions (1962), and particularly in the distinction between "function" and "factor," which can be represented through the classic mathematical formula:

$$f(x) = y$$

Here, x denotes the factor that is entered as input into the function f and which, according to a certain fixed rule, gives y as output. The language has changed, being borrowed from mathematics now, but the idea is the same. The function corresponds to the empty form, which is "filled in" by the factor as its content, and the "mating" between the two gives rise to y , which can be taken to mean a *piece of knowledge*. Applied to the CR of therapists, this means that in the clinical situation, therapists are dealt with a variety of "factors" which

come from the clinical material and constantly vary. This is the clinical content that changes from one patient to the next, or from one session to the next. But to develop knowledge of this material, therapists need to “insert” these factors as input in a set of mental functions, which work to process the material according to fixed rules. The value of “x” may change (e.g., $x = 2$, $x = 4$, ...), but the f according to which x is transformed into y must not. A theory of functions is thus concerned primarily with working out what f s occupy the mental space of the working therapist: what invariant forms of clinical thinking analytic therapists use in developing an understanding of the ever-changing content of sessions.

In our own model of CR (Chapter 1), we adopt the same framework, which we borrow from Kant via Bion, although we use a slightly different formula intended to increase clarity:

function + element of the clinical material = operation

Just like Bion (1965), we regard thinking in our model as a “process” that involves “saturation of an unsaturated element” (p. 153). However, unlike him, we refer to the operation as “thought,” in the sense of the “end-product” (p. 10) or output of thinking. The distinction between “thoughts” (in the past participle) and “thinking” (in the gerund) brings us further from Bion, but closer to everyday language. In our use of the term, what is to be transformed through thinking are not “thoughts,” but the elements of the clinical material. Thoughts are rather what ensues from the *transformation* of the clinical material: one could say, the alpha-elements.

Furthermore, from Bion we retain the idea that a conception can in turn be operated on, a view that helps to account for the never-ending character of the CR process. However, Bion puts this in a way that engenders confusion, for he suggests that through “saturation of an unsaturated element,” a conception “retains its dimension of ‘usability’ as a pre-conception” (p. 153). We find this formulation to be inconsistent, for a conception has a content that comes from the realization, and thus cannot constitute an “empty form.” We suggest instead that the operation becomes a new element of the clinical material to which functions can be applied – i.e., a new piece of information, just like any other.

2. Overview of the chapters

The central question about the analytic logic of discovery will be approached in this PhD from different angles, in a spirit of *theoretical and methodological pluralism*. Our espousing of theoretical pluralism is evidenced by our drawing from a variety of theoretical sources, from Bion and Schön (Chapter 1), to Jung (Chapter 4) or Hegel (Chapter 5). But it also evidenced by our effort to seek a model that can overcome the “narcissism of small differences” that famously divides therapists from different analytic schools of thought. As we explain further in Chapter 1, this effort is consistent with the spirit of Bion’s theory of functions, which was not intended to reflect any particular set of public theories: “I suggest a method of critical approach to psycho-analytic practice and not new psycho-analytical theories” (1965, p. 6).

Our commitment to methodological pluralism, on the other hand, is evidenced by the variety of approaches we have used to tackle our question. The PhD is composed of 5 empirical and theoretical studies (Table 1). The empirical studies use both quantitative and qualitative methodologies, and the theoretical ones span from epistemological to historical work. We are convinced that both “feet-on-the-ground empiricism” and “bold speculation” are needed to tackle any complex phenomenon. A theoretical researcher who does not ground their reflection in new data risks merely rearranging the available knowledge, or philosophizing away from reality. But an empirical researcher who proceeds in “ant-like” steps and never looks up to the bigger questions is not advancing the field either, if longer strides are needed.

Table 1. *Overview of the chapters.*

Chapter	Purpose	Methodology
1. Operators model	Model development	Empirical (Qualitative)
2. Didactic RCT	Model testing	Empirical (Mixed methods)

3. Origins of CR	Model exploration	Theoretical (Epistemological)
4. Fluid/crystallized	Model exploration	Theoretical (Historical)
5. Cunning of reason	Model development	Empirical/Theoretical (Theory-building case study comparison)

Chapter 1 is a qualitative study on the process of psychoanalytic CR. The aim of this study is to develop a descriptive model of the psychoanalytic logic of discovery. As we explain further in the chapter, there is a dearth of empirical studies in this area. Teller and Dahl noted in 1981 that there was “as yet no significant scientific theory that accounts either for the analyst’s *ability* to understand or for *how* he does so” (p. 394, emphasis in original) – but very few systematic attempts have been made to fill this research gap since the 80s. At a theoretical level, as already noted, our model sought to address the question that was left pending by Bion (1962): namely, what are some of the most common *sets of functions* used by analytic therapists. It follows that ours is not a psychoanalytic model of thinking, but a model of psychoanalytic thinking. Accordingly, we do not retain the language of Bion’s theory of thinking (e.g., “infant/breast,” “beta/alpha elements”), but only the operational language of his theory of functions (e.g., “function,” “linking”). This helps to ensure that our model is not associated with a specific public theory, not even Bion’s, and thus fulfils the requirement of neutrality that is necessary for pluralism⁶. In our model, we identify twelve sets of mental functions, which we call the “operators.” The operators model constitutes the center-piece of the whole PhD.

⁶ However, we retain from Bion’s developmental model a conception of thinking as a relational process occurring between two people over time. This relational model of the knowing process re-appears in Chapter 5. There, Bion’s insistence that beta-elements need time to be transformed (“sojourn in the breast”), or that thinking requires a dynamic relation (“breast” and “infant”), appear as the conditions of time and opposition.

Chapter 2 is a multicenter randomized controlled trial testing a training module based on the operators model. The aim of this study was to test the utility of the operators model as a didactic tool. The main interest of studying the CR skills of analytic therapists, in fact, lies in the possibility of improving the capacity for understanding of future or practicing therapists through *training*. If we are better able to describe, in an operational way, the “moves” that are carried out by competent analytic therapists in their everyday CR, then we are better equipped to teach them to therapists.

Chapter 3 is a conceptual study exploring the relation between the operators and “theory.” The operators model, as developed in Chapter 1, raised the question of the role that theory has in everyday CR. This led us to revisit Cattell’s (1943) distinction between fluid and crystallized knowledge, and apply it to the process of psychoanalytic CR. In this chapter, we also briefly touch on the question of justification.

Chapter 4 is another conceptual study on the historical origins of the operators. Another question that was raised by Chapter 1, in fact, is the degree to which the operators can be said to be “unique” to analytic therapy. It seemed to us that some of these skills are not only found to be used in other professions, but can also be historicized. This fact, in turn, led us to a philosophical examination of the nature of the operators. Are they “cultural” forms transmitted through education, or “natural” ways of developing meaning?

Chapter 5 is a theory-building study on the process of case conceptualization in analytic therapy. If the operators model focused on the functions that analytic therapists use to develop meaning through CR, the aim of this study was to outline the conditions for the process of CR to occur at all. This exploration was stimulated by two pairs from Chapter 1, who were used as case studies and analyzed through a Hegelian lens. In this way, we expanded the operators model by identifying a number of conditions by which the “logic” of a case can be spelled out by the reflective agents involved (patient, therapist, supervisor). As it will be explained in the Discussion, this chapter marks a break with the previous ones, as it implies an epistemological move *beyond* Kant.

Chapter 1:

The operators model of psychoanalytic clinical reasoning

In this chapter, we develop a model of psychoanalytic clinical reasoning as the inferential process by which analytic therapists are able to arrive at an understanding of the clinical material. Starting from Bion's theory of functions, we propose that a "function" can be thought of as a condition-action sequence that analytic therapists implicitly use to respond to certain configurations of elements in the material by executing conceptual or reflective operations. To investigate the main families of functions used by analytic therapists in everyday practice, an interpersonal process recall procedure was applied to supervision sessions from a theoretically heterogeneous group of participants. A consensual qualitative procedure was developed to identify operations, spell out the underlying functions, and group functions into families. Twelve families of functions were identified that appear to be used by analytic therapists regardless of their schools of thought. These are called the "operators" of psychoanalytic clinical reasoning. According to the operators model, the process of psychoanalytic clinical reasoning consists in the chaining of operations using functions from different families. A specific collection of "clinical reasoning styles" seems to be interwoven in this process. Different avenues open up for research, clinical practice, and training.

Reference

Polipo, N. F., Willemsen, J., & Kallai, D. (2024). The operators model of psychoanalytic clinical reasoning. *Journal of the American Psychoanalytic Association*, 72(2), 295–328.
<https://doi.org/10.1177/00030651241247211>

The operators model of psychoanalytic clinical reasoning

For present purposes, we are going to define Clinical Reasoning (CR) as the inferential process by which a therapist is able to pass *from A to B*, where A is the clinical material that is available about a case, and B is a relatively improved understanding of that material. By “clinical material,” we mean any information that is available about a case (as obtained, for instance, through a patient’s verbal communications or observable behavior), as well as any reaction of the therapist to that material, such as feelings or thoughts elicited by it. In turn, we assume that the understanding that is developed through CR can be used for two purposes: case conceptualization or reflective practice. *Case conceptualization* refers to the development of a hypothetical explanation of the factors causing and maintaining a patient’s difficulties. *Reflective practice* refers to the practical management or handling of the case, such as the planning and evaluation of intervention strategies. Although conceptually distinct, these two purposes of CR are seen as interrelated: consulting a conceptualization, in fact, can help a therapist to decide how best to intervene; just as reflecting on the effects of an intervention can help them redefine their conceptualization.

According to this working definition of CR, in order to pass from A to B, therapists will have to possess two kinds of skills: conceptual and reflective skills. *Conceptual skills* are needed to mentally manipulate the clinical material. They include, for example, the skills involved in selecting certain elements of the material, linking them together, or interpreting them in a new way. *Reflective skills*, on the other hand, are needed to adopt and maintain an optimal state of mind whilst carrying out the conceptual work. If conceptual skills are like “moves” that the therapist carries out on the clinical material (Schön, 1983, p. 134), reflective skills are

more like “positions” or “postures” that they maintain in order to monitor and regulate the CR process (Rober et al., 2008). If the process of passing from A to B can be compared to that of riding a bike, then conceptual skills are similar to the act of pedaling in order to advance, while reflective skills are more like the act of maintaining the balance as one is advancing.

1. Towards a model of psychoanalytic clinical reasoning

In this study, in particular, we are concerned with the development of a model of *psychoanalytic* CR, as the process by which psychoanalytically-oriented therapists are able to develop an understanding of the clinical material. The term “psychoanalytically-oriented therapist” is used here in a purposefully generic way, to avoid associating our model to any specific school of thought. We acknowledge, in fact, that the task of CR will not be approached in the same way by a Freudian, an object relational, a Lacanian, or a Jungian therapist. Yet, as important as these differences may be, we do not wish to factor them in our model. Rather, we wish to remain at a previous level of generality, where the question is whether there are any common features to the way in which analytic therapists, regardless of their school of thought, are able to pass from A to B.

In particular, the aim of the study is to develop a *descriptive model of the logic of psychoanalytic discovery*. A “descriptive model” of CR is one that outlines what analytic therapists *actually* do in their everyday practice. This is in contrast to a prescriptive model, whose aim is to outline what they *should* do (e.g., Kligman, 2010). On the other hand, the “logic of discovery” regards the steps that analytic therapists follow to *arrive at* an understanding of the clinical material. This is in contrast to the logic of justification, which regards the criteria by which such an understanding may be said to be valid (e.g., Isaacs, 1939)⁷.

⁷ Although the two logics cannot be seen as rigidly distinct (cf. Canestri, 2006, p. 3), we still find this distinction useful for our purposes.

So, what are the inferential steps by which analytic therapists are able to arrive at an understanding of the clinical material in their everyday practice? On this point, the literature is surprisingly meagre. Ramzy (1974) was one of the first to point out this gap:

Unbelievable as it may sound, in the whole vast library of psychoanalysis – clinical, theoretical, technical or applied – there are hardly any references which outline the logical guidelines or the methodological rules which the analyst follows in order to understand his patient. (p. 36)

To address this gap, Ramzy resorted to a method which consists in the close examination of excerpts from analytical sessions. The idea is that, by studying in detail the “mental operations” by which an analytic therapist was able to arrive at certain conclusions on a particular case, we may reconstruct some of the underlying “rules of inference” (Ramzy, 1974, p. 550). In this way, for instance, Ramzy was able to document the implicit use made by analytic therapists of a principle of temporal contiguity, according to which elements of the clinical material that occupy a near point in time are assumed to be connected. A similar method was used by other authors to reconstruct the rules of inference that analytic therapists seem to rely on in their everyday CR (Ivey, 2000; Meehl, 1983; Peterfreund, 1975; Wolitzky, 2007). However, such a method, grounded as it is on purposefully-selected clinical vignettes and often on a single author’s reflection, is bound to remain anecdotal and unsystematic.

A search for more systematic methods was initiated by the European Psychoanalytic Federation (EPF; Canestri, 2006, 2012). The Comparative Clinical Methods working party, for instance, devised a method that involves group discussions with therapists from different analytic societies (Tuckett, 2006). During these discussions, a clinical case is presented by an analytic therapist; then, the whole group works to reach consensus around a description of the analytic process by generating categories to classify the therapist's interventions. The advantage of this method is that it reduces

the influence of any single author's perspective, as it is based on the integration of multiple points of view. However, the main limitation is that the analytic therapists who take part in such clinical case conferences tend to do so *as analytic therapists*, not as researchers. As already noted by Ramzy (1974), this poses a problem of "circular thinking" (p. 544), if the language that they use to describe the process of psychoanalytic CR is a psychoanalytic one. In fact, even if the participants are able to reach a consensus in this way, they: are inclined to rely on their prior constructs and terminology thus recognizing in what they hear such phenomena as resistance, transference, defenses or the like. In other words, they go directly to conclusions rarely, if at all, spelling out the steps they have followed to reach them or noting the evidence or the reasons that led them to reach the particular understanding of what they have observed. (p. 544)

In the present study, we also used group discussions aimed at consensus building. However, to avoid the risk of circular thinking highlighted by Ramzy (1974), we made it a rule to avoid the use of any psychoanalytic jargon to describe the process of psychoanalytic CR.

1.1 Bion's theory of functions

The theoretical starting point for our model of CR was Bion's theory of functions (1962). This theory was an attempt by Bion to formalize the process by which analytical therapists understand the clinical material. To do so, Bion built on Kant's theory of knowledge, and specifically on the distinction between the *content* of knowledge (that is seen as coming from experience) and the *forms* of knowledge (that are seen as existing a priori). Just as human beings use certain a priori categories to organize the content of experience in general, so analytic therapists may be assumed to use certain a priori categories to organize the clinical material. Bion called these categories the *functions*.

Bion's choice of the name "function" has to be understood as a mathematical metaphor. With this metaphor,

Bion (1962) wanted to express how these a priori forms are like an unknown "variable" that is "devoid of meaning" in itself (p. 3). It is only when the variable is invested with a fixed "value" (p. 3) – which Bion calls a *factor* – that the function takes on meaning. But the purpose of the metaphor was also to underline how functions, in their "flexibility," remain "constant," while factors, being fixed, tend to be "replaced" (p. 38). In practical terms, this means that the clinical material at hand always changes: today it is one patient, tomorrow another; this session it is a certain story, the next it will be another. But as the *content* of CR changes, there must be something that does not – and these are the *forms* that are used to understand it. Still, such forms are meaningless in themselves, until they are applied to a concrete case. They are like Kant's "empty thought" which, in its abstractness, is *empty* until it is filled in by the "qualities" of a particular experience (p. 91).

But what makes Bion's theory of functions particularly interesting as a starting point to develop a model of psychoanalytic CR is that, for him, even *theories* or *concepts* are but one of the factors that a function can entertain. Theories and concepts, for Bion, are not the *forms* that analytic therapists use to understand the clinical material; rather, they are only one of the kinds of *content* that functions can be filled with, besides the elements of the clinical material (p. 2). Bion gives the example of an analytic therapist who is working on a clinical case: at a certain moment, a particular theory or concept may be "a major pre-occupation" of theirs; but "in subsequent weeks," as the case evolves, another factor may take its place (p. 39). In this sense, the utility of a theory of functions remains "whatever the function and whatever the factors" (p. 39).

The fact that Bion saw his theory of functions as a theory of the *process* of analytic understanding – regardless of the content coming from the case at hand and of the theories or concepts that are entertained at any moment – explains why he did not think of his theory as one among others. According to him, his theory of functions did not "diminish or increase existing psycho-analytic theories" (p.

89), for it was not a theory of any clinical phenomenon per se, but a theory of how analytic therapists *think* about clinical phenomena in general. That is also why, in developing his theory, Bion refrained from using well-established psychoanalytic concepts, such as “counter-transference” or “defense mechanisms.” Rather, he resorted to a mathematical and philosophical language, precisely to maintain a distinction between specific theories or concepts, which are only some of the “thoughts” that can enter the process of thinking, and “thinking” itself. Yet, at the same time, Bion (1962) claimed a right to redefine these terms *in his own way*:

It may seem that I am mis-using words with an established meaning, as in my use of the terms function and factors. A critic has pointed out to me that the terms are used ambiguously and the sophisticated reader may be misled by the association of both words with mathematics and philosophy. I have deliberately used them because of the association, and I wish the ambiguity to remain. I want the reader to be reminded of mathematics, philosophy and common usage ... In psychoanalytic methodology, the criterion cannot be whether a particular usage is right or wrong, meaningful or verifiable, but whether it does, or does not, promote development. (p. vi-vii).

1.2 A revised theory of functions

Although a useful starting point, Bion’s theory leaves many questions unanswered. For instance, Bion did not specify how many functions there are, nor did he flesh out the steps by which analytic therapists use them to select elements from the clinical material, link them, or carry out other essential tasks. Furthermore, the way in which Bion uses the key terms in his theory remains ambiguous. As noted, part of this ambiguity was *intended* – Bion (1962) wanted to “retain” the “penumbra of associations” that his chosen terms evoked (p. vi). Yet, part of it may have been due to a lack of systematicity on his part. In what follows, we

propose a revision of Bion's theory that aims for greater precision. In our revised version, we will retain some of the terms that Bion used: notably, "function," but also "operation." However, just like Bion, we claim a right to redefine these terms *in our way*, and ask that our usage be judged by the same criterion invoked above: namely, not so much whether it is "exact," but whether it will be fruitful for other analytic therapists and researchers in the field.

We define an "operation" as any kind of mental act that an analytic therapist carries out in order to pass from A to B. In line with our definition of CR, we envision two kinds of operations: those that the therapist carries out for the purpose of mentally manipulating the clinical material (*conceptual operations*); and those that the therapist carries out for the purpose of adopting the right "position" or "posture" (*reflective operations*). *We define a "function" as an operation, minus the content that comes from the particular case at hand.* This definition is based on the same Kantian epistemology that Bion's theory of functions was based on. We see a function as an "empty form" that has to be filled by an element of the clinical material in order to give rise to an operation.

To understand the relation between functions and operations, as we define these terms, let us take a mental act that Freud (1925) reported carrying out in his clinical practice. Freud gives two examples of this mental act. In the first example, the patient says: "I did not mean to insult you," from which Freud infers: "I *did* mean to insult you." In the second example, the patient says: "This person in the dream is not my mother," from which Freud infers: "This person in the dream *is* my mother." These two examples can be seen as *conceptual* operations, since they have to do with the mental manipulation of something that the patient said, rather than with the reflective positioning of the therapist. Now, these operations were carried out and reported by Freud in a specific theoretical context – namely, his theory of negation. However, let us abstract from this context and focus on the operations only from the point of view of the relation between content and form. If we do so, we may

notice that, in the two cases, the *content* is different. In one case, it is about the patient insulting someone; in the other, it is about the identity of a person in a dream. Since the content is different, then so are the two operations. However, what is common to both is their *form* – that is, their underlying *function*. In this case, the function may be spelled out as the mental act of *taking a negative proposition uttered by the patient ($\neg A$) and reverting it into a positive one (A)*.

This example illustrates our approach to the study of functions as forms that can be abstracted from the theoretical context and from the content coming from the case at hand. However, this example should not give the impression that the process of CR, as we understand it, consists merely in the process of drawing *logical* inferences. Functions, in fact, may be said to work like “rules of inference” (Ramzy, 1974, p. 550) or “if-then” rules. However, in the context of CR, these rules do not work as they do in classical logic. The function above, for instance, does not work as a rule establishing that conclusion q (“This person in the dream is my mother”) must follow from premise p (“This person in the dream is not my mother”) out of *logical* necessity. Rather, it works as a practical rule establishing that, *whenever an analytic therapist is faced with a certain configuration of elements in the clinical material* (e.g., the situation where a patient insists that something is not the case), *then the execution of a certain mental action is recommended* (e.g., the conceptual reversal of whatever the patient is saying). In other words, functions work as *condition-action sequences* by which analytic therapists are able to respond to certain configurations in the clinical material by executing certain conceptual or reflective operations.

2. Methodology

Our redefinition of functions as condition-action sequences tells us something important about the kind of knowledge that we wish to formalize in our model. It tells us that this knowledge is not one that analytic therapists are likely to possess in an explicit way, but rather in an *implicit*

or *tacit* way. Condition-action sequences, in fact, are the main form that *procedural knowledge* takes, as opposed to declarative knowledge (cf. Binder, 1999, p. 711). To go back to our initial analogy, analytic therapists may “know” how to pass from A to B in a similar way in which one is said to know how to ride a bike. The knowledge involved is not knowledge of any number of facts, nor one that can be easily verbalized. Rather, it is knowledge of a *process*: one that is difficult to explain in words, and that is better demonstrated *in action*⁸.

That is why, to formalize the implicit knowledge of analytical therapists, it may be useful to adopt some of the methods that have been described in the literature on *professional knowledge*. This field of studies deals precisely with the question of the “knowledge-in-action” that is mobilized by competent professionals in their everyday practice (e.g. musicians, athletes, chess players). In particular, in the present study, we decided to adopt a method proposed by Schön (1983), which consists in the analysis of transcripts from *supervision sessions*. Schön believed that, to study how the knowledge that defines competent practice in a profession is produced, structured, and transmitted, we need to observe practitioners (a) while they are at work on a concrete problem and (b) under conditions in which they are most likely to make their knowledge “public” (p. 74), that is, explicit. These, argued Schön, are conditions “in which a senior practitioner tries to help a junior one learn to do something” (p. viii).

In the present study, we adopted Schön’s method and studied transcripts of psychoanalytic supervision sessions. This method has several advantages. First, it helps to solve the problem of defining what constitutes *competent* practice in psychoanalysis (cf. Tuckett, 2005). While the working party of the EPF, for instance, solved this problem by inviting to its groups only a selected few “well-respected and reputed

⁸ The procedural nature of the knowledge involved in CR justifies the metaphors of conceptual skills as “moves” and reflective skills as “positions.” For a discussion of the neurobiological grounding of procedural knowledge in “embodied representations,” see Pezzulo 2011.

analysts" (Tuckett, 2006, p. 170), in our study we rather used *status as supervisor* as a proxy for competence in CR, invested as it is by a socially-recognized educational role in the analytic community. Secondly, this method is in line with recommendations by other scholars who have attempted to formalize the implicit knowledge of analytical therapists. Canestri (1999), for instance, laid out some methodological proposals to study this knowledge in an empirical way. His first proposal, indeed, was supervision, which he saw as "an ambiance that comes as near as is possible to the private reality of the analytic situation" (p. 187).

However, one problem remains: namely, that although the CR process becomes relatively explicit in supervision, *much of it remains implicit*, even there. This problem was pointed out already by Schön (1983), who noticed how, in a typical session, the supervisor seems to be guided by a system of implicit rules that they use, but do not describe to the supervisee: the supervisor "reflects-in-action," but does not "reflect on his reflection-in-action" (p. 126). That is why, in the present study, we decided to complement the study of supervision sessions with an additional procedure known as interpersonal process recall (IPR). This procedure is widely used in psychotherapy research for the in-depth study of conceptual and reflective processes (cf. Burgess et al., 2013; Hill et al., 2016; Rober et al., 2008). In our case, the procedure went as follows. First, pairs of supervisors and supervisees were asked to audio record a session in their naturalistic setting. Then, at the supervisor's earliest convenience (usually 1 week after the supervision session), a 2-hr online interview was organized on Zoom. During this retrospective interview, the recording of the session was played back in its entirety, and the supervisor was asked to stop it whenever a significant conceptual or reflective process had taken place in them *at that time* in the session. The supervisor was then invited to explain that process in as much detail as possible.

2.1 Participants

The study was approved by the ethics committee of the Psychological Sciences Research Institute of the Université catholique de Louvain. To recruit participants, a brochure was circulated among psychoanalytic training institutions and associations in Europe, inviting pairs of supervisors and supervisees to take part in the study. Supervisors were required to be psychoanalytic psychotherapists with an official role as supervisors in a training institute; supervisees were required to be undergoing or have completed a training program as psychoanalytic psychotherapists.

Twelve pairs of supervisors and supervisees participated in the study. Seven pairs were from Italy, 4 from Belgium, and 1 from the UK. The interviews were conducted by the first author in the supervisor's preferred language (French, Italian, or English). Two supervisees were still following their training program, while 10 had completed it. The supervisors were 9 psychologists, 2 psychiatrists, and 1 social worker. The supervisees were 10 psychologists, 1 social worker, and 1 counsellor. More information about the participants can be found in Table 2. Each pair is identified with a number referring to the chronological order with which they contacted us.

Four couples formed spontaneously to take part in this study, while 8 were pre-existing. The pairs that formed spontaneously (pairs 3, 4, 5 and 7) were constituted by a group of four Lacanian supervisors who are colleagues at a training institute. Instead of recording a session with one of their supervisees, these participants proposed to split into two pairs and proceeded to record each two sessions: one in which a therapist brought a clinical case and the other acted as their supervisor, and a second session in which the roles were reversed.

Patients included 6 female and 6 male patients (1 elder, 7 adults, 3 young adults, and 1 adolescent). Cases covered a wide spectrum of clinical issues, from everyday difficulties to severe psychopathology. Clinical issues included post-

traumatic stress, sexual abuse, occupational burnout, social withdrawal, domestic violence, obsessive-compulsive symptoms, and relational problems. In most cases, a formal diagnosis was not formulated, with the exception of one diagnosis of “hysteria” (pair 3) and two of “ordinary psychosis” (pairs 4 and 5).

Table 2. *Personal and Professional Characteristics of the Pairs of Participants.*

Pair	Age	Sex	Experience ^a	School of thought	Practice ^b	Supervision sessions ^c	Therapy sessions ^d
S1	74	F	36 (30)	Classic Freudian	ΨA, PT	0	3
T1	70	F	40	Classic Freudian	PT, PD		
S2	80	F	41 (31)	Freudian/Relational	ΨA, PT	14	14
T2	32	F	<1	Freudian/Relational	ΨA, PT		
S3	58	F	25 (10)	Lacanian	ΨA	0	8
T3	51	M	19	Lacanian	ΨA		
S4	51	M	19 (12)	Lacanian	ΨA	0	12
T4	58	F	25	Lacanian	ΨA		
S5	47	M	13 (5)	Lacanian	ΨA, PT	0	26
T5	58	F	20	Lacanian	ΨA, PT		
S6	61	F	35 (15)	Lacanian/Group analysis	ΨA, PT	1	7
T6	46	F	4	Unspecified	PT		
S7	58	F	20 (10)	Lacanian	ΨA, PT	0	10
T7	47	M	13	Lacanian	ΨA, PT		
S8	66	M	40 (20)	Integrative ^e	ΨA, PD	2	~180
T8	38	F	10	Unspecified	PT, PD		
S9	51	M	7 (2)	Jungian	PT	6	~150
T9	40	F	0	Jungian/Logotherapy	PD		
S10	63	M	35 (10)	Post-Kleinian/Bionian	ΨA, PT	30	~120
T10	35	M	4	Unspecified	ΨA		
S11	80	M	50 (45)	Freudian/Lacanian	ΨA, PT	1	9
T11	26	F	0	Unspecified	PT		
S12	40	F	12 (1)	Integrative ^f	PT, PD	<10	Unspecified
T12	53	M	14	Unspecified	PT		

Note. S = supervisor, T = therapist, ΨA = psychoanalysis, PT = psychoanalytic psychotherapy, PD = psychodynamic psychotherapy.

^a Number of years of practice after diploma as a psychoanalytic therapist. The number in parenthesis is the number of years working as a psychoanalytic supervisor.

^b Participant's definition of their own practice.

^c Number of supervision sessions that the pair has already had about this case.

^d Number of therapy sessions that the therapist has already had with the patient.

^e "Examples of central references: W. Bion, A. Ferro, R. Roussillon."

^f "A synthesis of all [schools of thought], with Freud as my foundation."

2.2 Data analysis

The aim of data analysis was to identify the main *classes of functions* that are implicitly used by analytic therapists. To do so, we developed a procedure for the classification of functions. This procedure resembles the one used in the "item generation" phase of measure development, where a certain domain is mapped through the identification of its constituent dimensions (Hinkin, 1995). Similarly, our analysis was guided by the search for a minimum sufficient number of descriptors for the process of psychoanalytic CR.

There are two main approaches to item generation. A *deductive approach* (or "classification from above") works by applying to the data categories that have been derived from a review of the literature or from theory; an *inductive approach* (or "classification from below"), on the other hand, works by generating new constructs from the data (Hinkin 1995, p. 969). In this study, we used the latter approach. Our procedure, in fact, was informed by our revision of Bion's function theory; yet, this theory did not provide any insight into the *content* of functions, nor into the number or kind of classes of functions. The categories were thus not pre-existing, but generated through data analysis.

To prepare the data for analysis, the recordings of the supervisor session and of the IPR interview were transcribed ad verbatim. Identifying details were removed and data were pseudonymized using P for patient, T for therapist, and S for supervisor, followed by the number identifying each pair. The transcripts of the supervision session and of the interview were merged into one document. Both transcripts (session *and* interview) were analyzed as data for each pair. The data were analyzed in three steps: (1) identifying operations, (2) spelling out the underlying functions, and (3) grouping functions into families.

1. *Identifying operations.* Data analysis was conducted on instances of CR. Because the process of psychoanalytic CR occurs in a dialogue between two persons, an "instance of CR" was defined liberally as: (a) any CR process that the supervisor verbalizes during the session; (b) any CR process that occurs at the time of the session, which the supervisor does not verbalize to the supervisee, but which they verbalize during the interview; and (c) any CR process that the supervisee verbalizes during the session, with which the supervisor agrees. Within instances of CR, the task was to identify operations. As noted, operations were defined as any kind of mental act that an analytic therapist carries out in order to pass from A to B, whether for the purpose of case conceptualization or reflective practice. It was assumed that an instance of CR could contain more than one operation (for instance, in the case of a lengthy supervisory intervention).

2. *Spelling out underlying functions.* Once an operation was identified, the task was to spell out the underlying function. This was done by removing from the operation the content that came from the case at hand. To illustrate, let us take an operation that was carried out by S6. During the session, T6 was telling S6 how P6 had always been a "model-child." During the interview, S6 explained that, as she listened to this element of the clinical material, she thought that T6 might have been talking about *herself*, since she also happened to have always been a "model-child." This mental act can be seen as a conceptual operation, since it consists in the mental manipulation of something that the supervisee said. If we abstract from the content that comes from the case at hand, then the function underlying this operation may be spelled out as the mental act of *taking something that A says about B, and inferring that A may be talking about themselves.*

In spelling out the function underlying an operation, researchers can rely on (a) the context in which the operation appears, as well as (b) any explanation that the supervisor might have left about the CR process behind that operation. Importantly, (b) is not always available. This is typically the

case for operations that are contained in an intervention that the supervisor made during the session, but for which they left no comment during the interview (for instance, because they did not decide to stop the recording of the session at that particular point). In such cases, researchers have to spell out the function using context alone, an activity that is obviously going to involve some *degree of inference* on their part. But even when the supervisor's explanation of the CR process behind a certain operation is available, the activity of spelling out the underlying function remains necessarily inferential. Supervisors, in fact, do not think *explicitly* in terms of functions; rather, functions have to be extracted from what they say. This is why researchers have to spell out functions as descriptively as possible, to limit the introduction of extraneous elements with their own inferences.

3. *Grouping functions into family.* The next step is to group functions into classes or, as we rather call them in our model, into *families* of functions. In mathematics, a "family of functions" is a set of functions whose equations have a similar form. In the context of CR, a family of functions may be defined as a set of functions that respond to the same *core idea*. To illustrate, let us take an operation that was carried out by S8. T8 was telling S8 how P8 and his mother "almost formed a couple." During the interview, S8 explained that, as he listened to that element of the clinical material, he thought that T8 might have been talking about *P8 and herself*, who also "almost formed a couple." If we remove the content that comes from the case at hand, then the function underlying this conceptual operation may be spelled out as the mental act of *taking something that A says about B and C, and inferring that they may be talking about B and themselves*. Now, if we compare this function with the previous one from pair 6, we can see that they are not identical. However, the "form" of the two functions may be said to be similar. In both cases, in fact, it is about *taking something that a person said and reflecting it back to them*, as in a mirror. The final step is thus to find a name for the family that best expresses the core idea to which its functions seem to respond. In this case,

for instance, to express the core idea of a mirror-like reflection, the family that grouped the two functions in question was eventually called "Self-reflective" (see Table 3).

Data were analyzed by the three authors. After independent coding of the transcripts from each pair, a consensus session was held. During these sessions, we discussed what functions had been identified and how best to group them into families. When there was disagreement on the function underlying an operation or on the core idea that could be used to define a certain family, we went back to the data and tried to ground both in passages from the transcripts. As we moved from a within-case to a cross-case analysis, the grouping of functions into families underwent some adjustments. These adjustments were guided by the striving to ensure that (a) the core idea defining a family was the "best fit" for the functions that it grouped (*homogeneity*); (b) the families had a minimal conceptual overlap between them (*independence*); and (b) each family could be documented to be used in most or all of the pairs (*generality*). The last criterion was added under the assumption that the use of functions in a certain pair might have been due to idiosyncratic characteristics of the participants (e.g., their school of thought) or of the case (e.g., the type of patient difficulties).

3. The operators model of psychoanalytic clinical reasoning

We identified 12 families of functions that were used in most or all pairs, regardless of the participants' school of thought or the particular case at hand. We call them the operators of psychoanalytic CR. "Operator" is another term that we take from Bion (1963, p. 19), but that we use with a different meaning. We have chosen this term because it evokes the idea that *operators*, as families of functions, are a "potential" that allows individual *operations* to be carried out. Table 3 provides a brief description of each operator and the core idea behind it. Below, a clinical example is given for each operator. These examples – each taken from a different pair

– serve to give the reader a better idea of how our procedure led us to our results. They illustrate the steps that we took in *our own inferential process* as we developed the operators model.

By looking at the examples, a distinction seems possible between two kinds of operators: conceptual and reflective ones. *Conceptual operators* seem to be used by analytic therapists prevalently (albeit not exclusively) for the purpose of carrying out conceptual operations, such as *filtering*, *linking*, or *transforming* elements of the clinical material. *Reflective operators*, on the other hand, seem to be used prevalently (albeit not exclusively) for the purpose of carrying out reflective operations, such as *(re-)positioning*: that is, discerning the risk of leaning towards an undesirable stance, and adjusting accordingly⁹. While the functions from conceptual operators are mostly applied *to the clinical material*, those from reflective operators are mostly applied by analytic therapists *to themselves* (as when a supervisor strives to listen to the clinical material in a certain way) or *to their interlocutor* (as when a supervisor invites their supervisee to adopt a certain stance with their patient).

Table 3. *The 12 Operators of Psychoanalytic Clinical Reasoning.*

	Operator	Core idea	Description
Conceptual operators	Dialectical operator	Opposites	Used to manipulate elements in the clinical material that stand in opposition. Opposites can be so-called graded, complementary, or relational antonyms (e.g., hard/soft, male/female, parent/child).
	Symbolic operator	Metaphors	Used to put elements that pertain to physical reality (i.e., concrete, external, literal) in correspondence with elements that pertain to psychic

⁹ The distinction between conceptual and reflective operators is only indicative and should not be taken rigidly, as some operators seem to contain both conceptual and reflective functions.

Reflective operators			reality (i.e., abstract, internal, figurative), or vice versa.
	Formal operator	Patterns	Used to disregard contingent differences and to focus on what is common between seemingly unrelated elements of the clinical material (e.g., repetitions, themes, parallelisms, temporal contiguities).
	Investigative operator	Clues	Used to attend to minor and seemingly unimportant elements of the clinical material (especially anything unusual or out of the ordinary) as that which may inadvertently reveal the “hidden truth” about a case.
	Genealogical operator ^a	Origins	Used to trace elements of the clinical material back to their origin. This origin is seen as something that is never fully “overcome,” but lives on in later stages of development and can sometimes be reactivated.
	Dynamic operator ^b	Forces	Used to attend to the motive powers or driving forces that “fuel” behavior or speech and which, in analogy with physical energy, are seen as liable to accumulate, dry up, overflow, burst out, etc.
	Skeptical operator ^c	Openness	Used to counter any tendency towards certainty, definitiveness, and close-mindedness, by adopting a more questioning, curious, and humble position that is oriented by a never-ending inquiry.
	Emancipatory operator	Liberation	Used to counter any tendency towards a “passive” stance of victimhood, dependence, or abdication of responsibility, by encouraging the adoption of an “active” stance of agency, autonomy, and accountability.
	Enkratic operator ^d	Restraint	Used to counter any tendency to react instinctively (e.g., on the basis of an intense and unpleasurable mental state), by making sure that, if one ever has to act, then one is doing so intentionally.

Mimetic operator ^e	Portrait	Used to counter the tendency to represent a phenomenon on the basis of labels, hearsay, or common places, by striving to approximate its unique reality as faithfully as possible and almost identifying with it.
Spontaneous operator	Flow	Used to counter any tendency to over-control, censor, or otherwise dictate the process, by letting it run free instead and giving space to that which appears at the margins of one's main stream of thought.
Self-reflective operator	Mirror	Used to counter any tendency to look at a reality as if it existed "out there" independently from the self, by turning the attention "inward" onto the subject and their personal implication in that reality.

Note.

^a From the ancient Greek word *genesis*, meaning "birth," "beginning."

^b From the ancient Greek word *dynamis*, meaning "power," "force."

^c From the ancient Greek word *skepsis*, meaning "doubtful inquiry," "examination."

^d From the ancient Greek word *enkrateia*, meaning "power in/over oneself," "self-control."

^e From the ancient Greek word *mimesis*, meaning "imitation," "representation."

3.1 Dialectical operator

T8 says that sessions with P8 (male adolescent patient) are "boring." P8 only talks about his videogames and nothing of significance ever happens. However, during the supervision session, S8 notices some "transformations" in T8's telling of the case, whereby the painted scene of boredom gives way to episodes that reveal, on the contrary, the presence of strong emotions playing out between T8 and P8. S8 underlines the contrasts between these two elements (boredom vs strong emotions) and starts developing a hypothesis that he does not share with T8, but will make explicit during the interview. S8's hypothesis is that the opposite of what T8 says might be true. That is, not only the therapy sessions might not be *boring*, but they might actually be *exciting*, owing to an unrecognized erotic transference that

is developing between P8 and T8. In this instance of CR, S8 is carrying out two operations, underlying which are different functions. The first operation consists in noticing the conversion of the scene of boredom into episodes of an opposite nature. The function underlying this operation may be spelled out as the mental act of *noticing the conversion of an element of the clinical material (A) into its opposite ($\neg A$)*. The second operation consists in taking T8's claim that "sessions with P8 are boring" and inferring that sessions with P8 might be exciting instead. The function underlying this operation may be spelled out as the act of *taking a proposition (A) and considering that the opposite ($\neg A$) might be the case*. Both are examples of the kind of functions that we grouped in the Dialectical operator. Other functions in this family include *posing that A and $\neg A$ might be paradoxically true at the same time; negating both A and $\neg A$ to affirm third option B*; and so on.

3.2 Symbolic operator

P2 often puts on too much perfume, but she does not realize it, until people start pointing it out to her. During the supervision session, T2 suggests that P2's perfume might represent her need to affirm herself in relationships, a need that sometimes can get overwhelming. S2 agrees. In the interview, she comments: "There is a considerable symbolic dimension, here: 'I, [P2], do not realize my *own* desire, carried on in a dysfunctional way, to be seen. To be seen in a positive light, as perfumed'". Later in the supervision session, T2 reports another element of the clinical material. P2 received as a gift a plant that "incredibly is still alive." "It is an indoor plant," explains P2, "but I put it in the sun at first, and it was dying, because it is a plant that should stay in the shade." T2 interprets this element by suggesting that the plant might represent P2's denial of her "desire to be warmed by the other." S2 agrees. In these two instances of CR (the one about the perfume and the one about the plant), T2 and S2 carried out two conceptual operations that are underlaid by the same function. This function may be spelled out as the

mental act of *taking a concrete or external element of the clinical material* (e.g., the perfume, the plant) *and interpreting it as the representation of an abstract or internal one* (e.g., P2's need to be perceived, desire to be warmed). Alternatively, the function may be spelled out as the act of *taking something that the patient meant literally, and interpreting it figuratively*. In both cases, this is an example of the kind of functions that we grouped in the Symbolic operator. Other functions in this family include *attending to the metaphors that are used by one's interlocutor; interpreting a particular element as the representative "par excellence" of a general idea*; and so on.

3.3 Formal operator

P5 grew up in a family characterized by a grandmother who was always intruding into P5's mother's life. Upon turning 18, P5 decided to leave his hometown and move to a bigger city. At some point, P5's mother, exasperated by her own mother, decided to also leave the hometown and move in with P5. A few months later, P5 started a relationship with a girl living "next door." S5 suggests that there might be a link between these two events, namely, the beginning of the cohabitation with the mother and the start of the relationship with the girl. S5 sees a pattern of "transitivities" in these "relations of invasion": just as P5's mother sought refuge from her looming mother by moving in with P5, so P5 sought refuge from his own looming mother by starting a relationship with the girl. S5 is supported in his belief that these two events might be linked by the fact that they have something else in common: namely, their point in time. The relationship with the girl, in fact, started *just a few months* after P5's mother moves in with him. In this instance of CR, S5 was able to link two seemingly unrelated elements of the clinical material by means of two conceptual operations. The function underlying the first operation may be spelled out as the act of *extracting the smallest common denominator X* (in this case, their being an "invasion") *from events A and B*. The function underlying the second operation may be spelled out

as the act of *noticing that events A and B are temporally contiguous, and inferring that they might be meaningfully linked*. Both are examples of the kind of functions that we grouped in the Formal operator. Other functions in this family include *extracting pattern of behavior X from actions A, B, and C*; *extracting theme X from communications A, B, and C*; *attending to the recurrence of expression X in someone's speech*; and so on.

3.4 Investigative operator

Five minutes into the supervisory session, T3 accidentally refers to P3 (a young woman) as "he," instead of "she." S3 immediately notices it: "But you said 'he'!". At this stage, S3 only points out the lapsus. It is only at the end of the interview that she will be able to propose that:

The whole supervision session served to signify that lapsus. When I say, "this 'he', in my opinion, says something important with respect to the position, the subjective structure of this patient," it is because I make the hypothesis that it is a hysteric subject. And in hysteria, there is a strong side of identification with the masculine.

S3's hypothesis was formulated in a particular theoretical context, namely, the Lacanian system of structural diagnosis. However, let us abstract from this context and focus only on the operations that were carried out. The first operation is the one by which S3 selected an element of the clinical material (i.e., T3 making a mistake in his speech) as revealing. The function underlying this operation may be spelled out as the mental act of *attending to an element that breaks out of the ordinary as something that might reveal a "hidden truth."* The second operation is the one by which S3 declared T3's lapsus as the key to the whole supervision session. The function underlying this operation may be spelled out as the act of *taking a minor and seemingly accidental element and interpreting it as the key to the whole case*. Both are examples of the kind of functions

that we grouped in the Investigative operator. Other functions in this family include *attending to elements that are unusual by excess or deficiency; attending to inconsistencies in someone's speech; taking something that a person insists is the case, and inferring it might be otherwise*; and so on.

3.5 Genealogical operator

P11 is an avid reader of erotic stories involving vampires. When T11 shares this element of the clinical material with her supervisor, S11 invites her to look for the "roots" of this interest. In particular, S11 suggests that these roots might be found in P11's infantile past. "Where does this interest come from? What do those stories remind P11 of her childhood?". In the interview, S11 further explains:

My hypothesis was – but I have not shared it with T11 in supervision – it's cannibalism. It's sucking the mother's blood ... I think that, hypothetically, it may have to do with archaic erotic cannibalism. Sucking the mother's breast, devouring her breast. That is the hypothesis that led me to try to see with T11 what the roots of this interest in vampires are.

S11's hypothesis was formulated in a particular theoretical context, namely, one that makes implicit use of the notion of "oral-sadistic stage." However, we can abstract from this context and focus only on the operation that was carried out. The operation consisted in taking P11's interest in erotic stories and looking for the first version that this interest might have taken in her personal history. The function underlying this operation may be spelled out as the act of *taking an element of the material and tracing it back to its earliest version*. This is an example of the kind of functions that we grouped in the Genealogical operator. Other functions in this family include *hypothesizing that element X developed through stages A, B, and C; interpreting a current event as the "reactivation" of a past one; hypothesizing that the beginning of a process already contained the rest of it in embryonic form*; and so on.

3.6 Dynamic operator

T10 has trouble being sufficiently assertive with P10. According to S10, T10 is too “elegant” and not “incisive” enough with his interpretations. Later in the supervision session, T10 tells S10 that he always ends the therapy sessions with P10 by telling him, quite abruptly, “we’re done.” He feels there is something “sadistic” in his use of this formula. S10 intervenes:

Because my recommendation to you, T10, is “try to use your aggressiveness more during the session.” But perhaps, such is your need not to be too incisive and to find an elegant way to interpret the patient’s aggressiveness, that this implies for you an exercise of self-control. And then the aggressiveness accumulates at the end of the session.

In this instance of CR, S10 carried out two operations. The first is the one by which he interpreted T10’s end-of-session “sadism” in a new way, i.e., as an expression of his aggressiveness. The function underlying this operation may be spelled out as the mental act of *taking a behavior and hypothesizing it to be underlaid by a driving force of which the person is not aware*. The second operation is the one by which S10 linked T10’s end-of-session “sadism” with his in-session “elegance.” The function underlying this operation may be spelled out as the act of *taking two behaviors and hypothesizing them to be underlaid by the same driving force which, finding no outlet through behavior 1, would build up and then express itself in an intensified way through behavior 2*. Both are examples of the kind of functions that we grouped in the Dynamic operator. Other functions in this family include *attending to a person’s general level of animation (vs lifelessness)*; *attending to emotionally-charged portions of speech*; *attending to where a person’s interest or investment lies*; and so on.

3.7 Skeptical operator

T4 brings to supervision the case of a patient who was referred by the police for episodes of domestic violence. In the interview, S4 stops the recording at the very beginning to make a preamble:

A first point that I feel is important to make clear is that for me there was always a return of the kind that- having an already extensive experience working with subjects who have problems with justice- somehow, this for me was a point where- I was saying to myself, "how shall I manage to sustain my continued ignorance and inquiry in this?".

When the interviewer asked for clarification, "You mean, even though you had an extensive experience with this class of patients?", S4 replied: "Well, precisely *because of* this extensive experience, how can I get rid of it, to focus on the case that is at play in that moment." In this instance of CR, S4 carried out a reflective operation. The operation consisted in discerning a risk that his prior knowledge about forensic patients would thwart his understanding by making him too sure of himself. To counter this risk, S4 adjusted himself into an attitude of "continued ignorance and inquiry." Abstracting from the case at hand, the function underlying this operation may be spelled out as the mental act of *discerning the risk of "closing" one's view on a case, and "re-opening" it*. This is an example of the kind of functions that we grouped in the Skeptical operator. Other functions in this family include *discerning a tendency to formulate a hypothesis too affirmatively, and reformulating it in a more tentative way; discerning a tendency to focus only on one hypothesis, and considering alternative ones; discerning a tendency to take something for granted, and calling it into question; and so on*.

3.8 Emancipatory operator

P7 complains about her role in the relationship with her husband (for whom she works as a secretary) and with her family of origin (for which she manages some properties).

She says that she always feels like the “poor little one.” Yet, T7 notes that it is P7 who accepts being put in this position by others. S7 agrees. In the interview, S7 explains:

The aim [of psychoanalytic therapy], what one tends towards, is always something that touches on the question of *subjective responsibility*. That is to say, the idea, as T7 rightly says, of trying to have the subject realize that, beyond the denunciation that she makes of the position in which the other puts her, there is something that makes P7, in any case, put herself – and remain, above all – in that position, of which she then complains ... [and] therein lies also her personal advantage ... what you do *gain* from staying there?

In this instance, T7 and S7 carried out a reflective operation. The operation consisted in discerning a tendency in P7 to put herself in the position of the poor little one whom the family would take advantage of, and promoting a position in which P7 realizes that it is her choice to accept these “shackles.” The function underlying this operation may be spelled out as the mental act of *discerning a tendency to present oneself as a victim, and promoting accountability*. This is an example of the kind of functions that we grouped in the Emancipatory operator. Other functions in this family include *discerning a tendency to let an authority decide for oneself, and promoting autonomy*; *discerning a tendency to imitate others, and promoting the search for one’s “style”*; *discerning a tendency to “play it safe,” and promoting taking risks*; and so on.

3.9 Enkratic operator

P6 is severely depressed and has shown no progress for months. T6 is worried and considers having P6 hospitalized. During the supervision session, S6 suggests that hospitalizing P6 risks to be a way for T6 to get rid of her own anxiety. Instead, T6 should try to “just be there” with her patient during this difficult phase. In the interview, S6 further explains:

I feel that T6 risks getting caught up in her anxiety ... and anxiety quickly leads to acting out ... [when a patient comes to us and says] "but I'm falling! I'm in the abyss! Am I going to fall any further?", rather than having the reflex of saying, "I've got to get you out of there!", how on the contrary can we be in this posture, in this position, where we accompany the fall ... how, through a work of speech, we can postpone the urgency ... since that is our job, it is about opening up a space for speech, precisely to try not to resort to action straight away.

In this instance, S6 carried out a reflective operation. The operation consisted in discerning in T6 a tendency to rush to act in favor of P6 as a way to relieve herself of the anxiety caused by the situation. S6 advised to resist giving in to this "reflex," and to make the difficult situation rather into an object of reflection ("work of speech"). The function underlying this operation may be spelled out as the mental act of *discerning a tendency to act on the basis of an intense and distressing mental state, and trying to think/talk it through instead*. This is an example of the kind of functions that we grouped in the Enkratic operator. Other functions in this family include *discerning an urge to fill an uncomfortable silence, and trying to bear it; discerning an urge to "fix" a problem, and just trying to understand it; and so on*.

3.10 Mimetic operator

T1 is telling about P1, but for S1 things remain "vague." T1 says, for instance, that P1 suffers from "attacks." "Anxiety attacks? Anger attacks?", inquires S1. "Not just 'attacks'". Later in the session, S1 suggests that, "to get a better feel of P1's experience," T1 may ask P1 to describe to her one of her typical days. In the interview, she further explains:

There I wanted to draw T1's attention- to really have her try to specify things, so that we can get a little closer to this woman ... It is precisely to try to approach more the- really, the day-to-day experience of this

woman ... to be as close as possible to this woman's lived experience. Not to be satisfied with vague things.

In this instance of CR, S1 carried out two reflective operations. The first one was to notice T1's use of words like "attacks" that left things rather "vague." The function underlying this operation may be spelled out as the mental act of *discerning a tendency to use generic descriptors, and asking for more specific ones*. The second operation was to discern in T1 a tendency to paint the case in a way that did not allow S1 to build a concrete picture of P1 in her mind. S1 thus invited T1 to ask for a typical day, as a way to get immersed in her patient's life and almost think and feel like P1. The function underlying this operation may be spelled out as the act of *discerning a tendency to paint a superficial picture of a case, and asking for a more immersive one*. Both are examples of the kind of functions that we grouped in the Mimetic operator. Other functions in this family include *discerning a tendency to use labels and asking for what personal meanings lie behind them; discerning a tendency to apply general theories, and trying to look at the situation in its uniqueness; and so on*.

3.11 Spontaneous operator

While T12 is talking about the case, the word "deprivation" comes to S12's mind. S12 intervenes by asking T12: "Would you say that P12 is emotionally deprived? Because I was thinking of 'deprivation', somewhere, but I don't remember why." In the interview, S12 explains:

While T12 was talking earlier on, I would have some associations, some pictures in my mind, some sensations. Now I am sharing these ideas with T12 to see whether he connects with any of these, whether he takes them somewhere. It is hard to explain how do you do that, where that comes from ... What is your response to the material you are listening to? What are the first things that come to your mind? It is important

just to empty your mind ... that creates different associations, and you just share them.

In this instance of CR, S12 carried out both a reflective and a conceptual operation. The reflective operation consisted in putting herself in a position from which, while listening to T12, she could attend to the contents that the material evoked in her. The function underlying this operation may be spelled as the act of *attending to the side contents that spontaneously come to mind while one is occupied with a main task*. The second operation consisted in taking one of these contents (the word "deprivation") and trying to link it with the rest of the material. The underlying function may be spelled as the act of *inferring that, if A makes one think of B, then A and B might be meaningfully linked*. Both are examples of the kind of functions that we grouped in the Spontaneous operator. Other functions in this family include *discerning a tendency to put a thought aside, and bringing it back into the process; discerning a tendency to think on the basis of a predefined script, and trying to think "on the spot";* and so on.

3.12 Self-reflective operator

P9 has been talking about his mistrust and suspiciousness towards women. Even in the relationship with his girlfriend, he always feels "vigilant." S9 intervenes by asking: "And with you, how does this shine through? After all, what P9 is saying regards his relationship with his girlfriend. But then he brings it to you, he tells it *to you*." In the interview, S9 further explains:

When a patient tells me something, at the same time I always ask myself the question: "But what is s/he telling *me*? In relation to what is happening *between us*?". I keep this question inside. We may be working on something, on a content; but at the same time, it is a question I always ask myself. I find myself thinking it in the sense that I find myself doing this *overturning*.

In this instance, S9 carried out a reflective operation. The operation consisted in discerning in T9 a tendency to

listen to what P9 was bringing to her (about his suspiciousness and mistrust towards women) as if it had nothing to do with her. To counter this tendency, S9 invited T9 to consider instead that what P9 was discussing *sub specie aeternitatis* might have been brought to bear on what was happening *hic et nunc*, in the relationship between P9 and herself. The function underlying this operation may be spelled out as the mental act of *discerning a tendency to describe a phenomenon as if it only regarded others, and trying to consider how it might regard also oneself*. This is an example of the kind of functions that we grouped in the Self-reflective operator. Other functions in this family include *discerning a tendency to talk about third parties, and refocusing the discourse on oneself*; *discerning a tendency to "beat around the bush," and refocusing on the "heart of the matter"*; and so on.

4. Discussion

Our results confirm some of the ideas that emerge from the literature on psychoanalytic CR. For instance, previous authors have suggested that analytic therapists would routinely look in the clinical material for elements that tend to repeat, such as patterns of behavior or recurring themes in a patient's communications (Arnold 2006, p. 759; Meehl 1983; Peterfreund 1975, p. 89), or that they would scan that material for "clues," that is, seemingly accidental or unimportant elements that step out of the ordinary (Arnold 2006, p. 757; Ginzburg 1980; Peterfreund 1975, p. 84). These mental activities find their place in our model with the Formal and Investigative operators, respectively.

However, the operators model provides for the first time *a unified description of the variety of mental activities* carried out by analytic therapists. Besides formal or investigative reasoning, in fact, analytic therapists have been described as engaging also in that "particular way of thinking" which Jung described as "thinking in symbols" (1906, para.

662)¹⁰, or in that way of thinking that Freud (1896) compared to an archeological excavation into the past. These mental activities, too, find their place in our model: with the Symbolic and the Genealogical operator, respectively. Overall, while previous authors tended to emphasize now this and now that facet of the process of psychoanalytic CR, the operators model brings *its various facets* together in a comprehensive account.

According to our model, in fact, there is no single defining feature to the process of psychoanalytic CR, other than the specific *collection of "CR styles"* that it seems to consist of. The brief examples that we offered may give the false impression that each operator is used in isolation from all others. But a fuller account would reveal how *all 12 operators* were interwoven within each case discussion. The central proposition of the operators model is that, although the process of CR may feel "one" to analytic therapists, passing from A to B actually consists in *chaining together operations using functions from different families*. And in this sense, the capacity to "think psychoanalytically" may be regarded as a higher-order or emerging function: that is, as a *function of functions*.

In developing the operators model, we made it a rule to avoid any analytic jargon. Instead, we decided to follow Bion (1962) and describe the process of psychoanalytic CR using a mathematical (e.g., "function," "operator") or philosophical language (e.g., "Dialectical," "Skeptical"). However, now that this "new" language has been formulated, it could easily be translated *back* into the "old" language of theory. The reader, in fact, will have realized how the operators subsume, without mentioning them, several classic analytic concepts, such as ambivalence, conflict (Dialectical); drives, sublimation (Dynamic); defensiveness, latent content (Investigative); repetition compulsion (Formal); abstinence,

¹⁰ Except where otherwise indicated, all references to Jung in this thesis are to *The Collected Works of C. G. Jung: Complete Digital Edition* (abbreviated as CW), published by Princeton University Press in 2014, edited and translated by G. Adler and R. F. C. Hull.

acting out (Enkratic); counter-transference (Self-reflective); secondary gain (Emancipatory); free associations, evenly-suspended attention (Spontaneous) – and many others. In this sense, the operators model *invents nothing new*. Just as Bion's theory, it does not "diminish or increase existing psycho-analytic theories" (p. 89), but simply provides a formal language to describe the process of psychoanalytic CR.

However, there is an advantage to using this *formal language* to describe the process of psychoanalytic CR, over the *content-based language* of theory. To illustrate, let us return to the example from Freud (1925) about the concept of "negation." Applying our procedure, we showed how the clinical use of that concept may be translated into the implicit use of a function, which we have spelled out as *taking a negative proposition uttered by one's interlocutor ($\neg A$) and reverting it into its opposite (A)*. In light of our model, we may now classify this function as belonging to the Dialectical operator, since it revolves around the core idea of *opposites*¹¹. But let us take now another Freudian concept: for instance, that of "reaction formation." The clinical use of this concept, too, may be translated into the implicit use of a function belonging to the Dialectical operator, insofar as it entails the mental act of *taking an element of the clinical material A* (e.g., a conscious behavior) *and considering its opposite $\neg A$* (i.e., the diametrically-opposed impulse that the behavior is defending the person against)¹².

Now let us go beyond Freudian theory and consider a Jungian concept, such that of "enantiodromia." The clinical use of this concept, too, may be translated into the implicit use of a function belonging to the Dialectical operator, insofar as it entails the mental act of *noticing the conversion of an element* (e.g., a conscious attitude) *into its opposite* (e.g., the

¹¹ This operation may be seen as relying also on the Investigative operator, insofar as it consists in *taking something that a person insists is the case, and inferring that it might be otherwise*.

¹² This operation may be seen as relying also on the Dynamic operator, insofar as it consists in *hypothesizing a behavior to be underlain by a driving force of which the person is not aware*.

unconscious compensation that arises to correct the conscious attitude). But this same function we have already encountered with S8, for instance, who used it in noticing the shift from boredom (A) to excitation ($\neg A$). S8, who is neither a Freudian nor a Jungian, explained the CR process behind his operation invoking yet another concept: namely, that of "transformation," as theorized by Christopher Bollas. We see then how the clinical use of different concepts (negation, reaction formation, enantiodromia, transformation) may translate, *from an operational point of view*, into the use of one and the same operator – a fact that would be easily overlooked if we were relying on the content-based language of theory alone.

By focusing on form rather than content, the operators model runs counter the "increasing babelization of the conceptual language" in contemporary psychoanalysis (Canestri 2006, p. 25). Not being associated to any specific school of thought, but being able to capture commonalities that exist at a more fundamental or transversal level than theory, the operators model may foster the dialogue between analytic therapists, by providing them with a sort of *lingua franca*. But there is also another form of "babelization of languages" that this formal language may be serve to counteract: that is, the one between treatment modalities. The reflective positioning that the Mimetic operator invites the therapist into, for instance, may come close to what person-centered therapists describe as "empathy," although it might be better known to analytic therapists as "trial identification" (Ivey 2000, p. 33). Or the reflective positioning that the Skeptical operator invites the therapist into may come close to what family therapists describe as "not knowing," although it might be better known to analytic therapists by many other names (Larner 2000).

5. Limitations of the study

The operators model was grounded on data from a small and culturally-connotated sample, which makes its

generalizability unclear. It is difficult to say how the model would have been different had we had, say, less Lacanians and more Kohutians in our sample, or had the participants come not from Europe but from a different environment, such as America or a non-Western culture. One of the most significant factors that limited the possibility of collecting more data was the resistance that we encountered during the recruitment process. Despite wide efforts to reach out to analytic therapists, only 12 pairs agreed to participate in our study. We believe that the nature of the study, which uses empirical methods to explore everyday practice, put some therapists "on the defensive." In this regard, we hope that the present study might facilitate the future involvement of clinicians in this kind of research, by showing how it can be consonant with their tradition and respectful of their craft. Our study sought to describe what analytic therapists *already do*, not to "evaluate" their practice.

As noted, we decided to include in our model only those operators that could be documented to be used in most or all of the 12 pairs that participated. This is also a limitation of this study, as it is conceivable that, depending on the composition of the sample, other operators might have appeared in the model. During data analysis, for instance, we hesitated on a couple of occasions to include further operators. To illustrate, one of these occasions regarded a family of functions that seemed to be centered on the core idea of *context*. Examples of functions in this family included *taking an element of the clinical material* (e.g., a seemingly solipsistic behavior) and *"zooming out" to consider its relation to the environment* (e.g., its function vis-à-vis a relational "addressee"). Adding such a "Systemic operator" would have been consistent, for instance, with Isaacs' (1948, p. 75) idea of the importance of context in psychoanalytic thinking. However, since the use of this operator was documented to be used only in a few pairs, we decided not to include it. The aim of this study, from the beginning, was to develop a *general model* of psychoanalytic CR. Future research may empirically investigate these lesser-used operators, perhaps

with the hypothesis that they may account for some of the specific differences that exist between analytic schools of thought.

Finally, in this study, we put in place a number of procedures to limit the influence of our backgrounds on our results. These procedures included (a) working on clinical data obtained from an independent source; (b) avoiding the use of any analytic jargon; and (c) building consensus as a theoretically heterogeneous group (the first author being a trainee in Jungian analysis, and the other two authors being qualified analytic therapists: Lacanian and integrative, respectively). However, despite these procedures, we acknowledge that our results are bound to have been influenced by our stance towards inquiry. Our Bionian starting point already came with a series of epistemological assumptions, such as the distinction between form and content. Furthermore, the philosophical and mathematical language that we used is not theoretically “neutral,” but refers to ideas that are historically connotated. It is also unrealistic that, while analyzing the data, we were able to set entirely aside any prior knowledge about the process of psychoanalytic CR. In coming across certain operations, it was impossible not to think about well-established analytic concepts such as “projection,” “transference,” or others. Yet, at the same time, refraining from using these concepts might have helped us to look at data with relatively “fresh eyes,” and possibly discover something new, instead of confirming what we already knew. We take as evidence of having at least in part succeeded in doing so the fact that, throughout data analysis, we *struggled to find the words* to name the functions and their families, as if attempting to lay a map on a territory that felt, to a large extent, unknown.

6. Implications of the study

We envision three possible applications of the operators model.

1. *Research*. This was an exploratory study at an early phase of method development. As a result, we did not apply here rigorous procedures such as the collection of frequencies or the calculation of inter-rater reliability indices. However, going forward, it would be necessary to test whether the procedure that we have developed can be used by other researchers to reliably code new sets of transcripts. If shown to be reliable, this coding method might be used in psychotherapy research to address important questions, such as whether the frequency or variety of use of the operators is associated to a better therapeutic process or outcome, or what kind of factorial structure underpins the operators. This would also be an opportunity to test whether our model, which has been developed on the basis of supervision sessions, actually generalizes to therapy sessions. While there is reason to believe that the conceptual and reflective skills that are mobilized by an analytic therapist during supervision are comparable to the ones that are mobilized during therapy (Yerushalmi 2012), this assumption needs to be substantiated by further research. Furthermore, it would be important to consider whether a recall taking place *immediately after the session* would help to obtain more reliable accounts of the CR process (Caspar 1997).

2. *Clinical practice*. The main clinical application of Bion's (1962) theory of functions was the development of a tool intended to help analytic therapists think through clinical problems in their everyday practice. Bion (1963) called it "the grid." Similarly, the main clinical application that we envision for the operators model is as a tool for the self-supervision of analytic therapists. Further research would be needed to develop such an "operators grid" and to empirically test its clinical utility. Importantly, this tool would not be intended for use *during the session*, lest it interfere with the spontaneous process of CR. Rather, just like Bion's grid, it would be intended for use *after the session*, especially in cases of clinical impasse where the therapist wants to deliberately think through a clinical problem from different points of view.

3. *Training*. Traditionally, the didactic component of the training to become an analytic therapist focuses on the

teaching of theories and concepts. However, trainee analytic therapists may benefit from learning not only about this content-based aspect of clinical thinking, but also about its formal aspect. In this context, the operators model may play a role as a didactic tool to introduce future clinicians to what competent analytic therapists implicitly do.

7. Conclusions

Bion (1962) described his theory of functions as an “attempt to understand our understanding” (p. v). We see our model as a continuation of that project: to shed light on what goes on in the mind of an analytic therapist while s/he is working on a case. In particular, the aim of this study was to take this attempt at self-understanding *one step further*. To use a metaphor that was dear to Bion (1962), if thinking (or understanding) can be compared to digesting, then we wanted to explore what are some of the main classes of “digestive enzymes” that allow analytic therapists to process the raw food of the clinical material (A) into absorbable nutrients (B).

Yet, at the same time, we see the operators model as a first and tentative step in a certain direction, not as a conclusive theory. Many important questions, in fact, remain unanswered at this stage. For instance, how do these enzymes, i.e. the operators, get called upon or “activated” in response to certain elements of the clinical material? Are there specific “chains” of operators that are frequently used? Is there a hierarchy among operators, such that some are more fundamental than others? These and similar questions, which are raised by our model for future research, illuminate all the work that still lies ahead of us in trying to understand a profession as complex as that of the analytic therapist.

Chapter 2:

Developing psychoanalytic case conceptualization skills through didactic teaching

A randomized controlled trial

Time-limited didactic interventions have been shown to be effective in developing “generic” case conceptualization skills. The objective of this study is to test whether similar interventions can be used to develop case conceptualization skills that are “specific” to a treatment modality. University psychology students were randomized to a target (n = 62) or a control group (n = 62). The target group received a training on psychoanalytic case conceptualization skills based on the newly-developed operators model. The control group received a training on generic case conceptualization skills based on the well-established 5 Ps model. The students’ self-efficacy for case conceptualization significantly increased in both groups. However, students in the target group reported a significantly greater increase in psychoanalytic case conceptualization skills and in their ability to make clinical inferences. The teaching method, as well as the case conceptualization models, were acceptable to students. However, the 5 Ps model was significantly more acceptable to students than the operators model. This is the first RCT to provide evidence that psychoanalytic case conceptualization skills can be developed through didactic teaching and that they constitute a specific set of skills that are not developed by learning generic case conceptualization skills.

Reference

Polipo, N. F., Willemsen, J., Hustinx, M., & Bazan, A. (2024). Developing psychoanalytic case conceptualization skills through didactic teaching: A randomized controlled trial. *Psychotherapy Research*, 34(3), 379–397. <https://doi.org/10.1080/10503307.2023.2241623>

Developing psychoanalytic case conceptualization skills through didactic teaching

A randomized controlled trial

One of the challenges of becoming a therapist is learning to make sense of the information that a patient brings through their words and actions. It requires a particular set of conceptual skills to be able to make order within the various and often confusing elements that form a clinical case. When these skills are systematically applied to the case material, they can lead to the development of a hypothetical explanation of the factors that are causing and maintaining a patient's difficulties. This hypothetical explanation is known as a Case Conceptualization (CC) or case formulation. Although a CC is always provisional and in need of revision, it holds a central place in the whole therapeutic endeavor. Its purpose, in fact, is to orient the treatment by guiding the therapist in addressing the factors that have been identified as contributing to the patient's difficulties.

The relevance of CC skills for everyday clinical practice explains why they are considered a *core competency* for therapists (Division of Clinical Psychology, 2011; Eells, 2022). Yet, despite the widely acknowledged importance of CC skills, concern has been raised about the level of competence demonstrated in this area by therapists, including qualified ones (Caspar et al., 2004; McClain et al., 2004; Misch, 2000). One of the strategies to address this deficit may be to design and implement new educational interventions aimed at developing CC skills. These interventions could be delivered by agencies involved in the training of therapists, such as private institutions offering psychotherapy courses or

universities offering degrees in clinical or counselling psychology. Importantly, such interventions should not only be designed and implemented, but also rigorously tested in order to ensure that they are *effective* in developing CC skills as well as *acceptable* to students (i.e., capable of meeting their learning needs).

1. Developing generic versus specific CC skills

The educational approaches to the development of CC skills may be divided into two main categories. *Didactic approaches* aim to develop CC skills through teaching methods where the students have a relatively passive role, such as frontal lectures, workshops, or pen-and-paper exercises. *Experiential approaches*, on the other hand, aim to develop CC skills through more immersive methods, such as clinical supervision, role-playing, or computer-based simulation (Caspar et al., 2004; Osborn et al., 2004; Page et al., 2008). Although a combination of the two is likely to yield the best results, in the present study our focus will be on didactic teaching methods. This is because we are interested in the possibility of teaching CC skills to future therapists in the same way in which most other subjects are taught to them in the standard university curriculum: i.e., through a didactic presentation to a larger or smaller class.

In the literature, one of the most studied didactic interventions to develop CC skills is one in which mental health professionals are taught a framework known as the “biopsychosocial” or “5 Ps” model (Abbas et al., 2012; Brown et al., 2018; Guerrero et al., 2003; Kendjelic and Eells, 2007; McClain et al., 2004; Minoudis et al., 2013). The 5 Ps model is a trans-theoretical framework that invites therapists to complement their analysis of a patient’s “presenting problems” with the identification of four aetiological factors: “precipitating factors” are the factors that triggered the onset of the most recent health episode or the request for help; “predisposing factors” are the factors that increased the patient’s vulnerability to the development of their problems; “perpetuating factors” are the factors that are maintaining

the patient's problems in the present; and "protective factors" are the patient's strengths and resources. In a biopsychosocial perspective, factors are seen as likely to be genetic, intrapsychic, as well as environmental (Weerasekera, 1996).

Didactic interventions based on the 5 Ps model have been tested through empirical studies, including two Randomized Controlled Trials (RCTs). In a first RCT, Kendjelic and Eells (2007) allocated therapists to a target ($n = 20$) or a control group ($n = 23$). Therapists in the target group received a 2-hr training based on the 5 Ps model, while those in the control group received no training. Results showed an improvement in the use of the model and in the overall quality of the CCs produced by the therapists at an outpatient clinic. In another RCT, Abbas et al. (2012) allocated therapists to a target ($n = 12$) or a control group ($n = 12$). Therapists in the target group received a 45-min training based on the 5 Ps model, while those in the control group received "teaching as usual." Results showed a significant improvement in the CC skills of the therapists in the target group based on a pre/post-test exercise with clinical vignettes. The participants reported also significantly higher scores in their confidence for carrying out CCs and in their appreciation for both the teaching method and the CC model.

These studies are encouraging, since they provide evidence that CC skills can be effectively developed through time-limited didactic interventions. However, they present some limitations. Besides low sample size, methodological limitations include a lack of pre-test assessment or an active control intervention in the RCT by Kendjelic and Eell (2007), or the fact that participants were not blind to group assignation in the RCT by Abbas et al. (2012). Furthermore, these previous studies focused only on the development of "generic" CC skills: i.e., skills that are not associated to any specific treatment modality. However, in everyday clinical practice, therapists typically conceptualize cases through the lens of a specific treatment modality (Eells, 2022). Psychoanalytic and cognitive-behavioral therapists, for instance, have different ways of drawing clinical inferences

when conceptualizing a case (Roussos et al., 2007; see also Schacht and Black, 1985).

For these reasons, it would be important to test whether didactic interventions can be used to develop not only generic, but also “specific” CC skills: i.e., skills that are demonstrated by therapists who are competent in a certain treatment modality. In this study, in particular, our focus will be on the development of *psychoanalytic CC skills*. With this term, we indicate CC skills that are demonstrated by therapists who are competent in modalities such as Freudian, object relations, Jungian, or Lacanian psychoanalysis or psychoanalytic therapy. On the other hand, we differentiate between such a “psychoanalytic” approach to CC (Messer & Wolitzky, 2007) and approaches associated to manualized or time-limited “psychodynamic” therapies (e.g., Luborksy’s, 1997).

1.1 Developing psychoanalytic CC skills by teaching public theories

Psychoanalytic education is traditionally based on three pillars: personal therapy, clinical supervision, and theoretical seminars. Of these three, the properly *didactic* component of training takes place during the seminars, and largely focuses on the teaching of psychoanalytic public theories (International Psychoanalytic Association, 2023). “Public theories” are formal theories that have been officially accepted by the psychoanalytic community of reference (Canestri, 2006). They include meta-psychological theories, such as Freud’s structural model; developmental theories, such as Klein’s theory of the depressive and schizoparanoid positions; or nosological theories, such as the Lacanian system of structural diagnosis. The assumption underlying this didactic approach is that, to be able to carry out a “good” psychoanalytic CC, trainee therapists need to become knowledgeable about such theories. This assumption reflects also in the fact that the best-known didactic resources available on the subject of psychoanalytic CC largely focus on the teaching of public theories (e.g., McWilliams, 1999); or

that the few empirical studies aimed at developing psychoanalytic CC skills through didactic methods have focused on the teaching of one or another set of public theories (e.g., object relations theory; Ivey, 2006).

However, the main limitation of this approach is that there is little evidence that competent analytic therapists actually conceptualize cases by applying public theories to the clinical material. Instead, when examining the reality of clinical practice, they seem to engage in a different and much more complex set of information processing strategies. Peterfreund (1975), for instance, suggested that competent analytic therapists conceptualize the clinical material by relying implicitly on various "working models." He contrasted the bottom-up use of these models to the top-down application of public theories, which is characteristic of less competent therapists and leads to "cliché" psychoanalytic formulations (p. 86). Similarly, Arnold (2006) and Ivey (2000) argued that the process by which competent analytic therapists conceptualize the clinical material is a complex one, consisting in the implicit use of a number of strategies. When these are abdicated in favor of the simple application of public theories, the result are "preconceived," "jargon-laden" (Arnold, 2006, p. 757), or "stereotyped" psychoanalytic formulations (Ivey, 2000, p. 30).

From a pedagogical point of view, a gap thus seems to exist between the public theories that trainee therapists are taught as part of their training, and the reality of everyday practice. In order to fill this gap, according to Sandler (1983), analytic therapists build a variety of "partial theories, models or schemata" in their preconscious, as they grow more competent with experience (p. 38). And it is these implicit models, rather than public theories, that would allow them to achieve "a better fit" with the clinical material (p. 38; see also Parsons, 1992). But if this is so, then, as Sandler (1983) provocatively asks, why continuing to teach trainees some of the most obscure public theories, as if these had any "direct relevance" to everyday practice (p. 37)? As consensus grows around the idea that competent analytic therapists do not conceptualize the clinical material by applying public theories,

but by relying implicitly on a variety of models and strategies (see also Canestri 2006, 2012), then a change in the way psychoanalytic CC is taught can be envisioned.

This change would be to teach – not necessarily in place of public theories, but at least in addition to them – the very information processing strategies that competent analytic therapists seem to use: i.e., to teach *explicitly* what a trainee would go on to develop *implicitly* anyway. However, the main obstacle in the way of implementing this change is that we still know very little about what these “conceptual skills” of analytic therapists actually consist of (Storck et al., 2021). Empirical studies in psychotherapy research, in fact, have been conducted on the CCs of analytic therapists (Eells et al., 2005, 2011). However, these studies typically take a deductive approach to data analysis, in the sense that they code the CCs according to variables that have been derived on the basis of a review of the literature (for instance, by differentiating a priori between “intuitive” or “cognitive-analytical” strategies; Caspar, 1997). Yet, in order to answer the question of what the conceptual skills of analytic therapists consist of, an inductive, rather than deductive approach, would be needed, by which new variables are generated *from the data themselves* (Hinkin, 1995).

In this sense, a greater insight into the question of what the conceptual skills of analytic therapists consist of can be obtained by reviewing a different stream of literature, which has favored the in-depth examination of excerpts of analytic sessions, in an attempt to formalize the logic of psychoanalytic clinical inference (e.g., Ramzy, 1974; Wolitzky, 2007). From these studies, a convergence emerges on a few conceptual skills that seem to be specifically used by analytic therapists in their everyday practice. Examples include the ability to think in terms of “patterns,” i.e., elements in the clinical material that tend to repeat, such as a recurring theme in a patient’s verbalizations (Arnold, 2006, p. 759; Meehl, 1983; Petefreund, 1975, p. 89); or the ability to think in terms of “clues,” i.e., seemingly minor elements that are unusual or step out of the ordinary, such as a lapsus

(Arnold, 2006, p. 757; Ginzburg, 1980; Peterfreund, 1975, p. 84).

1.2 Developing psychoanalytic CC skills by teaching the operators

“Thinking in patterns” or “thinking in clues” are just two examples of the conceptual skills that competent analytic therapists seem to mobilize in their practice, and which do not consist in the application of any particular set of public theories. However, what would be needed is a more systematic description of the *variety of skills* that characterize the psychoanalytic approach to CC. To this end, in a recent study, we developed a model of psychoanalytic clinical reasoning based on the observation of competent analytic therapists at work (Polipo, Willemssen, & Kallai, 2024). Twelve supervisors from different analytic schools of thought were recruited (e.g., Freudian, Lacanian, Jungian), who had an average of 27 years of clinical experience and an official training role in an analytic institution. Using an interpersonal process recall procedure, the supervisors were asked to record a session with one of their supervisees. Then, an interview was organized during which the recording of the session was played back in its entirety and the supervisor was instructed to stop it whenever they remembered having gone through a significant conceptual or reflective process. The supervisor was then asked to explain that process in as much detail as possible.

Data were analyzed using a procedure informed by Bion’s “theory of functions” (1962). To illustrate how the procedure worked, let us take an example from our dataset. During one of the supervision sessions, the supervisee presented the case of a patient who had always been exceptionally dedicated to her work as a nurse, but who had recently developed a severe burnout. The patient’s condition was so impairing that her parents had to drive her to the therapist’s office. During the retrospective interview, the supervisor explained that, upon listening to these first elements of the clinical material, she had already formulated

a thought in her mind. The thought was that the patient had gone through a transformation: from caring completely for others (as in her work as a nurse), to being completely cared for by others (as in her current state of dependence).

In this example, the supervisor, as a competent analytical therapist, was able to start "ordering" the little clinical information available. In particular, the supervisor took a first inferential step in her CC by linking together two elements of the clinical material: i.e., the fact that the patient had always been a dedicated nurse, and the fact that she now needed to be driven to the therapist's office. To formalize inferential steps such as this one, our procedure consists in taking conceptual operations and removing from them the *content* that comes from the case at hand, to focus only on the *form*. In this case, for instance, the procedure worked by spelling out the form of the operation as the mental act of *noticing the conversion of an element of the clinical material* (the patient's caring for others) *into its opposite* (the patient's need for care from others). The *form* of an operation – which states the mental act that has been carried out by an analytic therapist, but "emptied" of its particular *content* – is what Bion (1962) calls a "function."

After identifying operations and spelling out their underlying function, the next step in our data analytic procedure was to group functions into "families." A family of functions was defined as a set of functions responding to the same *core idea*. To illustrate, while coding the transcripts, we found that competent analytic therapists engaged in a variety of mental acts: not only *noticing the conversion of an element of the clinical material into its opposite*, but also, for instance, *taking an element of the clinical material* (e.g., a proposition uttered by the patient) *and turning it into its opposite* (e.g., considering that the opposite might be true), or *positing that one thing and its opposite might be true at the same time* – and so on. These different functions, although not identical, can be said to have something in common, which we identified in the core idea of the opposites, and were therefore grouped in the same family. In this way, through a consensual qualitative approach, we identified 12 families of

functions that seemed to be implicitly used by most or all of the participants in our sample, regardless of their school of thought.

We call these families of functions the “operators” of psychoanalytic clinical reasoning. In particular, among the 12 operators that were identified, we make a distinction in our model between conceptual and reflective operators. *Conceptual operators* are used prevalently for the purpose of mentally manipulating the clinical material (e.g., selecting elements, linking them together, interpreting them in a new way), while *reflective operators* are used prevalently for regulating the position or posture of the therapist. Since the topic of the present study is CC, we are going to focus only on the 6 conceptual operators. These were named in our model the Dialectical, Symbolic, Investigative, Formal, Genealogical, and Dynamic operators. Table 4 reports the core idea for each operator and a non-exhaustive list of functions within each family.

Table 4. *The Six Conceptual Operators, their Core Ideas, and Examples of Functions within Each Family.*

Operator	Core idea	Examples of functions in each family
Dialectical	Opposites	• <i>noticing the conversion of an element of the clinical material into its opposite</i> • <i>taking an element of the clinical material and turning it into its opposite</i> • <i>positing that one thing and its opposite are true at the same time</i>
Symbolic	Metaphors	• <i>interpreting a literal element of the clinical material in a figurative way</i> • <i>interpreting an external element as the representation of an internal one</i> • <i>attending to the metaphors that are appearing in the clinical material</i>
Formal	Patterns	• <i>noticing the recurrence of an element of the clinical material</i> • <i>extracting a commonality between two seemingly unrelated elements</i>

		• <i>noticing the temporal contiguity between two seemingly unrelated events</i>
Investigative	Clues	• <i>attending to elements that are out of the ordinary (by excess or deficiency)</i> • <i>attending to minor details that might accidentally reveal a "hidden truth"</i> • <i>interpreting an element as a distraction for what is "really" going on</i>
Genealogical	Origins	• <i>interpreting a present element as the re-activation of a past one</i> • <i>tracing an element back to the place or time whence it originated</i> • <i>attending to the first element in a series as the most important one</i>
Dynamic	Forces	• <i>attending to where a person's general investment or interest lies</i> • <i>attending to emotionally-charged elements of the clinical material</i> • <i>hypothesizing some motive force underlying a particular behavior</i>

The operators model confirms some of the insights coming from the previous literature. For instance, the Formal and Investigative operators respond to the conceptual skills that were referred to above as "thinking in pattern" and "thinking in clues," respectively. However, the model also goes beyond the existing literature, by providing for the first time an empirically-grounded description of the *variety of CC skills* that are used by competent analytic therapists. Furthermore, from a pedagogical point of view, the operator model has the advantage of lending itself to become the basis of a training module in which students train their psychoanalytic CC skills by applying the operators to the clinical material. To illustrate how this may work, let us take a vignette that we created on the basis of a published case study (Cornelis et al., 2017) (Box 1).

Box 1. Vignette example.

Chris is a 26-years-old white man. He works as a salesman at a wholesale business. He enters therapy with complaints of "anxiety attacks" triggered by fear of dying from heart failure. The attacks prompted Chris to consult his GP, who referred him to a psychologist. Initially, Chris found this insulting, feeling that he had "not been taken seriously." He stresses that his "bodily sensations" are "real," not "imagined."

Chris had his first attack four months ago, while on a business trip to Dubai. The "worst thing" about this attack was that nobody spoke his "mother tongue." Since then, the attacks have started to occur daily and in a variety of contexts, "without any reason." Since the attacks can strike "anytime, anywhere," Chris is continually in a state of uncertainty. He frequently monitors the "normality" of his heart rate. He feels he is not "in control" over his "bad thoughts," which are "continually lingering on hospitals and diseases."

Chris reports also "agitation" when others interfere with his well-organized schedule. Every morning, as he wakes up, he pictures "an image of the perfect day." When something unforeseen occurs (e.g., slow traffic, long queues at the supermarket, new deadline at work), he gets impatient. Chris' "corked up" frustration causes him to "explode" at some point, by reacting coldly or aggressively to others (e.g., by loudly blowing the horn of his car). Chris' agitation, in addition to his other symptoms, interferes with his ability to carry out his daily routine. This leads to bad moods and "a feeling of not being able to handle the future."

For fear of facing "misunderstandings," Chris hides his difficulties from his colleagues and puts on the impression of a "strong man." The only person with whom he can "drop the pretense" and be himself is his girlfriend Anna. Whenever Chris has an attack, he immediately reports it to her. Anna's "job" is to reassure him about the "absurdity" of his fears. Chris finds Anna supportive, but since she has never had an attack herself, he thinks that she "can never really understand."

The attacks are "the one thing I cannot properly explain to her," in an otherwise "perfect" relationship. Chris and Anna moved in together one week before the trip to Dubai. Chris is aware that he has "never been treated with so much love" and is "afraid to lose" Anna by doing something that would make her "want to leave." Anna is a bit tired of Chris needing help all the time. She thinks that his attacks are related to his "bottling up." She prompts him to talk about himself and share his thoughts and feelings. But Chris finds this "annoying," as he never knows what to say.

Chris's relationship with his parents was "the opposite" of the one he has now with Anna. Growing up, whenever Chris spoke to his parents about fears he had about his body sensations, they never "took

him seriously." On one occasion, what they thought was a "regular cold" turned out to be "terrible pneumonia." As a result of his parents' behavior, he has long since stopped confiding in them.

Note. In quotes are the words of the patient.

On the basis of this vignette, the students may exercise their psychoanalytic CC skills by applying the operators. For instance, they might use the Dialectical operator to notice how Chris, for someone who is always in control, occasionally seems to lose all control (*noticing the conversion of an element into its opposite*). Using the Symbolic operator, they might interpret that the "mother tongue" that Chris talks about refers not only to the fact that the people around him spoke Arabic, but also that no one could really understand him (*interpreting a literal element in figurative way*). Using the Formal operator, they might notice that the expression "being taken seriously" is used twice by Chris, with reference to both his GP and his parents (*noticing the recurrence of an element*). Using the Investigative operator, they might find the word "job" a bit odd, used as it is by Chris in the context of an intimate relationship (*noticing elements that are unusual or out of the ordinary*). Using the Genealogical operator, they might interpret Chris' anxiety attacks as a re-surfacing of his childhood experiences (*interpreting a current element as the reactivation of a past one*). Or using the Dynamic operator, they might attend to Chris' emotional reaction to the GP, wondering what he found so "insulting" about the referral (*attending to emotionally-charged elements*).

These are just examples to give an idea of how, using the operators model, students can be guided in carrying out operations that, chained together, can lead to a psychoanalytic CC. Importantly, by conceptualizing a case like Chris' through a specific model like the operators model, the students would arrive at a CC that is quite different from the one that they would arrive at by using a generic model like the 5 Ps model. In the former case, the CC would be recognizably more "psychoanalytic." But not because of its

content: i.e., the fact that the CC contains jargon-laden language that can be explicitly linked to psychoanalytic public theories. Rather, because of its *form*: i.e., the fact that the CC is developed through conceptual operations that use the same functions as the ones that competent analytic therapists implicitly rely on in their practice.

2. Objective

The aim of this study is to test whether psychoanalytic CC skills can be developed through didactic teaching. To do so, we used an experimental design comparing two educational interventions that were delivered to university psychology students. Both interventions were aimed at developing CC skills and used the same didactic teaching methods. However, they were based on different CC models: the target intervention was based on the operators model, and the control intervention was based on the 5 Ps model. The 5 Ps model was chosen as a control intervention for two reasons: first, because students are not expected to develop psychoanalytic CC skills by learning such a generic model; and second, because it is one of the most widely taught CC models, and therefore a form of “teaching as usual.”

Our hypotheses focused on the effectiveness and acceptability of the educational interventions. In terms of effectiveness, we hypothesized that there would be: a significant pre/post increase in the students’ psychoanalytic CC skills in the target, but not in the control group (H1); a significant pre/post increase in the overall quality of the students’ CCs in both groups (H2); and a significant pre/post increase in the student’ self-efficacy for CC in both groups (H3). Self-efficacy was included as a variable since it is widely used as a “subjective” outcome measure in studies testing the effectiveness of clinical skill trainings with university students (Hill et al., 2014). In terms of acceptability, we hypothesized that the teaching method would be equally acceptable to students in both groups, since it was the same (H4). On the other hand, we were interested exploratorily in

what CC model would be most acceptable to students, but we formulated no hypotheses in this regard.

3. Methods

A multicenter RCT was run in two sessions¹³. The first session took place in March 2022 at the Université catholique de Louvain (UCLouvain) in Belgium and involved a cohort of 90 students who were randomly allocated to a target ($n = 46$) or a control group ($n = 44$). The second session took place in May 2022 at the Université de Lorraine in France and involved a cohort of 34 students randomly allocated to a target ($n = 16$) or a control group ($n = 18$). In both sessions, participants in the target and control groups were tested on the same day, but at different times. On the first session at UCLouvain, the target intervention was delivered in the morning and the control intervention in the afternoon. To control for the effect of morning fatigue or other confounding variables associated to the time of the day, the order was inverted on the second session. Each session lasted a total of 4 hr, inclusive of a 30-min pre-test, a 2-hr training, and a 30-min post-test, plus the time for the entry/feedback questionnaires and for breaks in between activities.

The real aim of the study was hidden to students in two ways. First, students were told that we wanted to test two equally valid CC models, to see which one was most effective and acceptable. Thus, they were not aware that a target intervention was being tested against a control one. Second, students were blind to the psychoanalytic nature of the target intervention. Participants in both groups were told that the CC model that they were being taught was used by therapists from different treatment modalities. This was made possible by the fact that the operators model can be taught using a descriptive language that makes no reference to psychoanalytic jargon (see Table 4). At no point, during the

¹³ Ethical approval was obtained on 19/01/2022 from the ethics committee of the Psychological Sciences Research Institute at Université catholique de Louvain (ID: Project 2022-04).

target intervention, concepts explicitly associated to psychoanalysis were used (e.g., “unconscious,” “defense mechanisms,” “transference”). In this way, we wanted to control for the influence of (positive or negative) prejudices about psychoanalysis that might have influenced the target intervention’s effectiveness and acceptability.

3.1 Participants

An a priori power analysis was conducted using G*Power 3.1. Medium effect sizes ($f = .25$) were expected on the basis of previous studies (Abbas et al., 2012; Kenjelic & Eels, 2007). With a significance criterion of .05 and 80% power, the minimum sample size needed to detect medium effects is 98 participants for a mixed Analysis of Variance (ANOVA). Thus, the obtained sample size of 124 psychology students (62 in each group) was considered more than adequate.

As it can be seen from Table 5, participants were prevalently female psychology students at bachelor-level, especially in the second year. The majority (62.1%) did not have any previous clinical experience; and those who did, typically had gained it through curricular internships, which involve the shadowing of qualified therapists more frequently than a direct contact with patients. The majority of participants (69.4%) were recruited through a participant pool associated to the course “Research Methodology” at UCLouvain, and received credits for their participation.

Neither at UCLouvain nor at the University of Lorraine, students receive any training in psychotherapy as part of their psychology degree. However, they learn about the different treatment modalities at a theoretical level (e.g., cognitive-behavioral therapy, psychoanalysis). In both universities, students also have courses on psychopathology and diagnostics, during which they receive some basics of CC in the sense of a formulation complementing the DSM-5 diagnosis. However, neither university has a stand-alone course on CC in the broader sense of developing an understanding of the clinical material – neither in its generic

nor in its specific form. The participants' prior knowledge about CC, as well as their prior knowledge of and consonance with different treatment modalities, have also been included in Table 5 (for a description of how these variables were measured, see "Measures").

Table 5. *Socio-demographic Characteristics and Descriptive Statistics of Participants.*

Characteristic	Target group		Control group			Full sample			
	n	%	n	%		n	%		
Gender									
Female	52	83.9	52	83.9		104	83.9		
Male	10	16.1	10	16.1		20	16.1		
Education									
BA 1 st year	9	14.5	12	19.4		21	16.9		
BA 2 nd year	41	66.1	34	54.8		75	60.5		
BA 3 rd year	6	9.7	7	11.3		13	10.5		
MSc 1 st year	2	3.2	5	8.1		7	5.6		
MSc 2 nd year	2	3.2	4	6.5		6	4.8		
Clinical experience ^a									
Shadowing therapists	14	22.6	15	24.2		29	23.4		
Treating patients	9	14.5	9	14.5		18	14.5		
University									
UCLouvain	46	74.2	44	71		90	72.6		
Lorraine	16	25.8	18	29		34	27.4		
Native French speaker	55	88.7	57	91.9		112	90.3		
Course credits ^b	44	71	42	67.7		86	69.4		
	M	SD	Range	M	SD	Range	M	SD	Range
Age	22.8	6.2	19–49	21.5	4.1	19–42	22.2	5.2	19–49
Average university grade ^c	13.4	1.7	10–17.5	13	1.7	10–16	13.2	1.7	10–17.5
Knowledge ^d									
CB	3.1	1.1	1–5	3.3	1	1–5	3.2	1	1–5
ΨA	3	1.1	1–5	3.4	1	1–5	3.2	1.1	1–5
PC	2.9	1.1	1–5	3.3	1.1	1–5	3.1	1.1	1–5
ST	2.8	1.1	1–5	3.4	1	1–5	3.1	1.1	1–5

Consonance									
CB	3.2	1.1	1–5	3.4	1.1	1–5	3.3	1.1	1–5
ΨA	2.5	1.1	1–5	2.8	1.2	1–5	2.7	1.2	1–5
PC	3.3	1	1–5	3.5	1	1–5	3.4	1	1–5
ST	3.3	1	1–5	3.6	1	1–5	1	1	1–5
Prior knowledge about CC	2.7	1	1–5	2.6	1	1–5	2.6	1	1–5

Note. $N = 124$ ($n = 62$ for each condition).

^a Reflects the number and percentage of participants answering “yes” to this question.

^b Reflects the number and percentage of students who received course credits for participating in the study.

^c The average grade is on a scale from 0 to 20.

^d CB = cognitive-behavioral, ΨA = psychoanalytic, PC = person-centered, ST = systemic.

3.2 Vignettes

In addition to Chris’ vignette (Box 1), which was used in the RCT for training purposes, two vignettes were created for pre- and post-assessment. The patients’ fictitious names are “Edith” and “Tara.” These assessment vignettes were created on the basis of the ad verbatim transcripts from the first three sessions of a psychoanalytic therapy. Edith’s and Tara’s cases were selected since they are matched on a number of variables (both patients being middle-aged women who are receiving treatment for chronic depression by the same therapist). All vignettes have a similar word count (661 for Tara, 637 for Edith, and 621 for Chris). Each vignette includes 6-7 paragraphs covering domains of the patient’s life such as symptoms, context of referral and first therapy session, work, intimate relationships, and childhood. The vignettes were written in such a way that both the operators and the 5 Ps models could be applied to them (Appendix A).

3.3 Procedure

A participant information sheet was circulated among students. Students were aware that, by agreeing to take part in the study, they would be randomly assigned to “Group A” or “Group B” and that both groups would receive a CC skills

training on the same day, but at different times: Group A in the morning (9 a.m. to 1 p.m.) and Group B in the afternoon (2 p.m. to 6 p.m.). To increase motivation, students were informed that there would be a prize draw for all those who completed the study. One student out of 10 in each group would have the chance to win a €25 voucher for a local retail chain. To enroll in the study, the students had to email N.F.P., who would communicate to them the group to which they had been assigned. Each newly-enrolled student was assigned to Group A or B on the basis of a block randomization sequence obtained through an online resource (www.sealedenvelope.com). A total of 174 students enrolled. Yet, after randomization, 50 participants (25 in each group) dropped out. In most cases, drop out was due to incompatibility between the research experience and the schedule of university classes.

On the day of the experience, students randomly picked a slip of paper from a box. On each slip, a unique participant code had been printed twice. The students were asked to tear the slip in two halves, put one half in a second box, and keep the other half with them. In this way, students could be identified throughout the trial while protecting their anonymity, and the second box was used for the prize draw at the end of the study. On each desk, a training folder had been placed which contained – in both groups – an informed consent form, an entry questionnaire, the pre- and post-test vignettes, the training vignette, a note-taking worksheet, and the feedback questionnaire. To control for the possible influence of differences between the two assessment vignettes, half of the folders in each group contained Tara's case as the pre-test vignette and Edith's as the post-test vignette; for the other half, the order was reversed. The folders had been distributed on the desks alternating one with Edith's case as pre-test and one with Tara's. However, since students sat unevenly, 54% ended up having Edith as the pre-test vignette and 46% Tara, as opposed to 50/50.

As the research experience began, M.H. gave to the students an overview of the activities planned for the day. Then, she invited them to sign the informed consent form in

their folder. These forms were collected separately from all other documents to ensure anonymity. Then, students were given 5 min to complete the entry questionnaire. Next, students were invited to take out of their folder the vignette that had “pre-test” on it (either Edith or Tara). The assignment, which was reported also on the top of the answer sheet, was read out loud by M.H.:

Formulate some hypotheses about the elements involved in this clinical case. What do you think are the most important elements? What links or interpretations can be made from them? Be aware that there are no “right” or “wrong” answers. You can write your answer as a continuous text or in bullet points. In the latter case, please do not write only key words, but try to walk us through your reasoning process.

Students had 30 min to complete the task. After the pre-test, they were given a 10-min break. At their return, the training module started. Students were given a 10-min break also at the half and at the end of the training module. At their return, they were given 5 min to complete the feedback questionnaire. Next, they were given 30 min to complete the post-test exercise (either Tara or Edith). Finally, the prize draw was carried out. A few days after the research experience, students were debriefed via email, and the aim of the study was revealed to them. Students were given the possibility to request the teaching materials of both the target and control interventions.

3.4 Training module

The training module was supported by a PowerPoint presentation and divided in three parts. Part I (10 min) was identical in both groups. It was delivered by J.W. and consisted of a general introduction to the topic of CC. At the end of Part I, J.W. asked the students to take out of their folder the training vignette (“Chris”). Students were given 5 min to read it.

Part II (1h and 40 min) was delivered jointly by N.F.P. and J.W.. This is the part that differed in the target and

control group, as it focused on the operators or the 5 Ps model. N.F.P. started by introducing the model. Then, each component was presented separately. In the operators model, the components are the 6 operators; in the 5 Ps model, they are the 5 Ps. Every component was given 15 min, except the first component in the 5 Ps model ("presenting problems") which, to equalize for the difference in the number of components in the two models (6 versus 5), was given 30 min. To teach the components, we used a method known as case-based analogical reasoning with cueing (Speicher et al., 2012). Our adaptation of the method is illustrated hereafter using the Dialectical operator as an example of component.

First, N.F.P. introduced the component by telling a story. To introduce the Dialectical operator, for example, the Zen story of the Taoist farmer was told. This story illustrates in a narrative form the continuous transformation of things into their opposite. As such, it provides an appropriate introduction to the Dialectical operator as the conceptual skill of thinking in opposites. After the story, the Dialectical operator was presented in more abstract terms, and a non-exhaustive list of functions within that family was explained (cf. Table 4). Then, a reasoning exercise was proposed based on a movie scene. For instance, to exercise the Dialectical operator, an extract from the movie "Venus in Fur" was shown (Polanski, 2013). The students were told that they were going to be shown a scene in which several elements would change into their opposites, and they were asked to note down as many as they could on their worksheet. After the 5-min extract, J.W. asked the students to give 2-3 examples of what they had noted, and gave feedback. Then, he proposed a non-exhaustive list of "solutions," i.e., conceptual operations that could have been carried out by applying the Dialectical operator to that scene. For instance, in the case of "Venus in fur," a dialectical operation consisted in noticing how the extract started with an actress begging a director to audition her, and ended with him begging her to stay (*noticing a conversion into the opposite*). After going through all the solutions, students were asked to do the same exercise with Chris' vignette. What conceptual operations

could be carried on this clinical material using the Dialectical operator? Once again, J.W. took 2-3 answers from the students and gave feedback. Then, he showed a list of "solutions" and explained them one by one. Examples of conceptual operations carried out on the training vignette using the Dialectical operator included, for instance, noting how Anna is the only one who can understand Chris, and yet at the same time she "can never really understand" (*noticing that one thing and its opposite might be true at the same time*).

The same didactic method was used with every other component from the two CC models. The only difference between the two conditions was that in the control group the students were not asked to do any "thinking" while watching the movie scene. Rather, they were told that the scene would *illustrate* the aetiological factor that had just been presented. For instance, the opening scene from "Falling Down" (Schumacher, 1993) was used to illustrate the second component, "precipitating factors." After showing the scene, J.W. briefly commented on the role of stress as a precipitating factor in mental health problems. Then, in order to have the students in the control group engage in a comparable cognitive effort as the one undertaken by the students in the target group, a "quiz" was proposed to them instead. J.W. asked a specific question relative to the aetiological factor in question (e.g., "What is one of the most common precipitating factors for manic episodes?"). Then, just as in the target group, he took 2-3 answers from the students before providing some solutions derived from the scientific literature (e.g., "sleep deprivation").

Finally, in Part III (15 min), J.W. made a summary of how the various components of each model could be "pieced together" to produce a comprehensive CC of Chris' case. Then, the training ended with some general recommendations adapted from Eells et al. (1998). Students were taught that, regardless of the CC model that they used, three criteria were important for a "good" CC: *degree of inference* (going beyond the information that is already available in the vignette), *precision of language* (using a

language that is tailored to the patient's unique situation); and *comprehensiveness* (integrating different domains from the patient's story). To conclude, a final request was made. To ensure that coders would be blind to group assignment when coding the CCs, students were asked *not to mention the name of the components of the CC model in their post-test CC* (e.g., "dialectical operator," "precipitating factor"). Rather, they were asked to use the CC model to stimulate their thinking, but then to spell out their reasoning process *in extenso*.

3.5 Measures

Entry questionnaire. This questionnaire collected sociodemographic and background data such as the students' age, sex, first language, university year, average grade, and clinical experience. The questionnaire also included some scales to measure potentially confounding variables. In particular, the students' prior knowledge about CC was assessed on a 5-point Likert scale (from "Strongly agree" to "Strongly disagree"). The four items were "I already know what CC is," "I already have experience carrying out CCs," "I already have received one or more trainings on CC," and "I already know one or more models of CC." Cronbach's alpha for this scale was .85. The student's prior knowledge of treatment modalities was assessed on a 5-point Likert scale (from "I feel I don't know it all" to "I feel I know it very well"). The four modalities considered were cognitive-behavioral, psychoanalytic, humanistic/person-centered, and systemic. Similarly, to assess the students' personal consonance with each modality, a 5-point Likert scale was used (from "Not at all consonant with me" to "Very consonant with me"). Finally, in the entry questionnaire, the students' self-efficacy for CC was assessed using a 10-point Likert scale, going from 0 ("No confidence") to 9 ("Complete confidence"). The scale was adapted from Hill et al. (2014) to the task of CC by using four items which all began with the incipit "If I am presented with a clinical case, I feel capable of...", followed by: "identifying the most important elements," "making meaningful links

between elements,” “formulating hypotheses or interpretations,” and “developing a global understanding.” Cronbach’s α for this scale at pre-test was .92. The scale was re-administered in the feedback questionnaire. Cronbach’s α at post-test was .90.

Overall quality. To assess the quality of CCs, we used the Case Formulation Content Coding Manual (CFCCM; Eells et al., 1998). The CFCCM is one of the mostly robustly tested measures for quality of CCs (Bucci et al., 2016). It has two sections. The first section is used to assess generic CC skills; the second one is used to assess the quality of CCs according to a series of ratings. In this study, since we were not concerned with the effectiveness of the control intervention, we used only the second section. In particular, we coded the CCs according to the three quality ratings that were taught to students in Part III of the training module: *degree of inference* (the extent to which a student makes links, hypothesis, or interpretations, as opposed to summarizing the information in a descriptive way); *precision of language* (the extent to which a student uses a language that is tailored to the patient, as opposed to a stereotypical language that would apply to any patient); and *comprehensiveness* (the extent to which a student integrates several domains of the patient’s life, as opposed to developing their CC around a single aspect). Each quality rating was assessed on a 5-point Likert scale, from 0 (“Not at all inferential/precise/comprehensive”) to 4 (“Highly”). The 248 CCs that students produced at pre- and post-test were coded independently by two clinical psychologists who were blind to group assignment and pre/post status. Coders calculated the Intraclass Correlation Coefficients (ICCs) every 10-20 CCs to monitor progress. Disagreements were resolved through discussion and a consensus score was arrived at. The final ICCs (two-way mixed effects, absolute agreement, single measures) for Tara’s vignette were .87 for degree of inference, .84 for precision of language, and .89 for comprehensiveness. In Edith’s vignette, they were .90 for degree of inference, .86 for precision of language, and .90 for comprehensiveness. Since all quality ratings had positive

correlations with each other that were significant at the .01 level, a sum score was calculated for overall quality (0–12). Cronbach's α for the sum score was .78 at pre-test and .68 at post-test.

Psychoanalytic CC skills. Since there is no validated scale to measure psychoanalytic CC skills (Bucci et al., 2016), we developed one for use in this RCT called the Psychoanalytic Operators Coding Sheets (POCS-6; Appendix B). For each of the 6 operators, a coding sheet was created based on Tara's and Edith's vignettes, for a total of 12 coding sheets. Each coding sheet contains a list of conceptual operations that can be carried out on the vignette using that particular operator. The list was developed a priori to help coders determine what they should take as evidence of the use of a certain operator. Coders count the number of operations that the student has carried out in their CC and, on this basis, give a score for each of the 6 operators using a 5-point scale: 0 ("absent"), 1 ("slightly present"), 2 ("moderately present"), 3 ("highly present"), and 4 ("exceptionally present"). Absent corresponds to 0 operations carried out using that operator. Exceptionally present corresponds to 4 or more operations. The 248 CCs were transcribed in such a way as to remove any reference to group assignment or pre/post status and then independently coded by N.F.P. and M.H.. Coders calculated the ICCs every 10-20 CCs to monitor progress. Disagreements were resolved through discussion and a consensus score was arrived at. The ICCs (two-way mixed effects, absolute agreement, single measures) for Tara's vignette were .83 for Dialectical, .83 for Symbolic, .75 for Formal, .86 for Investigative, .72 for Genealogical, and .76 for Dynamic. For Edith's vignette, they were .73 for Dialectical, .75 for Symbolic, .86 for Formal, .74 for Investigative, .82 for Genealogical, and .81 for Dynamic. Since the scores for the operators had positive correlations with each other that were significant at the .01 level, a sum score was calculated for overall psychoanalytic CC skills (0–24). Cronbach's α for the sum score was .78 at pre-test and .77 at post-test.

Feedback questionnaire. In the feedback questionnaire, students were asked to evaluate both the didactic teaching method and the CC model. The acceptability of the didactic teaching method was measured on a 5-point Likert scale (from "Strongly disagree" to "Strongly agree"). The four items were: "I found this teaching method stimulating," "I find that this teaching method facilitated my learning process," "I have appreciated the didactic teaching materials (slides, movie extracts, vignettes)," and "Globally, I am satisfied with this teaching method." Cronbach's alpha for this scale was .80. The acceptability of the CC model was measured on a 5-point Likert scale (from "Strongly disagree" to "Strongly agree"). The four items were: "I have found this model interesting at a theoretical level," "I have found this model useful at a practical level," "I think this is a good model for carrying out a CC," and "Globally, I am satisfied with this model." Cronbach's alpha for this scale was .87. Finally, feedback was collected from participants with two open-ended questions: "Are there any aspects of the training module that you have particularly appreciated and would like to mention?" and "Are there any aspects of the training module that you think should be improved and would like to mention?".

3.6 Data analysis

To test H1, H2, and H3, mixed ANOVAs were run using time (pre, post) as within-subject independent variable and group (target, control) as between-subject independent variable, and the scores on the outcome variables (operators, quality ratings, self-efficacy) as dependent variables. Whenever the analyses yielded significant results, they were repeated including as covariate any continuous variable that was significantly related to the outcome variable at pre-test.

When checking the residuals of the outcome variables for normality, most of them failed the Shapiro-Wilk test. Descriptive analysis showed the data to be right-skewed. Transformation of data was ruled out to preserve the qualitative meaning of the scores. Instead, considering that

ANOVA is robust to violations of normality, especially with moderate sample sizes and equal sample size in both conditions, we decided to report the results of the parametric tests anyway. However, to increase the reliability of our findings in light of the violation of normality, separate nonparametric independent samples tests (Kruskal-Wallis) and dependent samples tests (Friedman) were run to check between and within-group differences on the outcome variables, respectively. The results of these nonparametric tests confirmed the results from the mixed model ANOVA (Appendix C). Data were analyzed with SPSS 27. Significance level was set at .05. There were no missing data in terms of CCs. The consensus scores from the CFCCM and the POCS-6 were used in the analyses. Since our study involved the testing of an intervention through a series of planned comparisons between a target and a control group, we decided not to make corrections for multiple comparisons.

4. Results

There were no significant differences between the participants in the target and control groups in terms of age, gender, competence in the French language, receipt of course credits as incentive, university year, clinical experience, prior knowledge about CC, or consonance with the various treatment modalities. The two groups significantly differed only in their knowledge about two modalities – psychoanalysis, $F(1, 122) = 5.83, p = .021$, and systemic therapy, $F(1, 121) = 9.69, p = .002$ – with the control group being slightly more knowledgeable in both cases (Table 5). At pre-test, no significant differences between groups were found on any of the outcome variables (psychoanalytic CC skills, quality ratings, self-efficacy for CC). The average CC word count in the full sample was 238.4 at pre-test ($SD = 76.50$, range 55–467) and 228.4 at post-test ($SD = 74.55$, range 81–392), with no significant differences between the groups at either pre or post-test.

4.1 Psychoanalytic CC skills

In the full sample at pre-test, the students attained means in the use of the operators that go from a minimum of .35 for the Dialectical operator ($SD = .60$) to a maximum of 2.02 for the Dynamic operator ($SD = 1.29$), corresponding to psychoanalytic CC skills in the “slightly” to “moderately present” range. As reported in Table 6 and shown in Figure 1, the students in the target group had a pre/post increase in the use of all the operators, while the students in the control group had a decrease in the use of all but one operator (Formal). The results for the mixed ANOVAs run separately for each operator reveal a significant interaction between time and group for three operators out of six: namely, the Dialectical, Investigative, and Dynamic operators. As shown in Table 7, for the Dialectical operator, there was a significant interaction between time and group, with a large effect size. The main effect of group was also significant, with a large effect size, and so was the main effect of time, with a small effect size. For the Investigative operator, there was a significant interaction between time and group, with a large effect size. The main effect of group was also significant, with a medium effect size, while the main effect of time was nonsignificant. For the Dynamic operator, there was a significant interaction between time and group, with a small-to-moderate effect size. The main effect of group was also significant, with a small-to-moderate effect size, while the main effect of time was nonsignificant.

As concerns the sum score for psychoanalytic CC skills, the students in the target group increased from 8.10 to 10.35, while those in the control group decreased from 7.71 to 6.58 (Table 6). The results for the mixed ANOVA (Table 7) show that the interaction between time and group was significant, with a medium-to-large effect size. The main effect of group was also significant, with a moderate effect size, while the main effect of time was nonsignificant. The analysis was repeated including as covariates university grade and prior knowledge about CC. The interaction between time and group remained significant, with a medium-to-large

effect size, Wilks' Lambda = .89, $F(1, 116) = 14.68$, $p < .001$, $\eta_p^2 = .11$. The main effect of group remained significant, $F(1, 116) = 8.01$, $p = .006$, $\eta_p^2 = .07$, and the main effect of time remained nonsignificant, Wilks' Lambda = 1.00, $F(1, 116) = .03$, $p = .86$, $\eta_p^2 < .01$.

4.2 Overall quality

In the full sample at pre-test, the students attained a mean of 1.89 for degree of inference (SD = 1.14), 1.73 for precision of language (SD = 1.24), and 1.90 for comprehensiveness (SD = 1.17), corresponding to average or slightly below-average ratings of CC quality. As reported in Table 6 and shown in Figure 1, the students in the target group had a pre/post increase on all of the quality ratings, while the students in the control group had a decrease on all ratings but one (Comprehensiveness). However, as reported in Table 7, the results for the mixed ANOVA with the sum score for quality ratings as dependent variable show that the main effects for time and group were nonsignificant, as was their interaction.

The only significant effect was found on the interaction between time and group for the degree of inference, with a small-to-medium effect size. As shown in Table 6, the students in the target group had a pre/post increase in the degree of inference from 1.87 to 2.05, while those in the control group had a decrease from 1.90 to 1.65. The analysis was repeated including as covariate university average grade. The interaction between time and group remained significant, with a small-to-medium effect size, Wilks' Lambda = .97, $F(1, 116) = 4.30$, $p = .04$, $\eta_p^2 = .04$. The main effect of time remained nonsignificant, Wilks' Lambda = 1.00, $F(1, 117) = .01$, $p = .93$, $\eta_p^2 < .01$, and so did the main effect of group, $F(1, 117) = .33$, $p = .57$, $\eta_p^2 = .01$.

4.3 Self-efficacy

In the full sample at pre-test, the students reported a mean of 5.11 (SD = 1.66) for their self-efficacy for CC, corresponding to an average or slightly above-average

confidence in their ability to conceptualize a case. As reported in Table 6 and shown in Figure 1, both the students in the target group and those in the control group had a pre/post increase in their self-efficacy scores, going from 5.10 to 6.40 and from 5.10 to 6.60, respectively. The results for the mixed ANOVA show that there was a significant main effect of time on the self-efficacy scores, with a very large effect size (Table 7). The main effect of group, on the other hand, was not significant, and neither was the interaction between time and group. The analysis was repeated including as covariates university year and prior knowledge about CC. The main effect of time on remained significant, with a very large effect size, Wilks' Lambda = .62, $F(1, 118) = 71.00$, $p < .001$, $\eta_p^2 = .38$. The main effect of group remained nonsignificant, $F(1, 118) = .09$, $p = .79$, $\eta_p^2 = < .01$, and so did the interaction between time and group, Wilks' Lambda = .98, $F(1, 118) = 2.44$, $p = .12$, $\eta_p^2 = .02$.

4.4 Acceptability

Finally, there were no statistically significant differences between the target and control group in terms of the acceptability of the teaching method, $F(1, 121) = .16$, $p = .69$, $\eta^2 = < .01$. The teaching method was rated as acceptable with a mean of 4.5 in the full sample ($SD = 0.4$, range 3-5), corresponding to a mid-point between "Agree" and "Strongly agree" on the Likert scale.

On the other hand, a statistically significant difference was found in the acceptability of the CC models, with a medium-to-large effect size, $F(1, 122) = 15.65$, $p < .001$, $\eta^2 = .115$. In particular, the 5 Ps model was rated as highly acceptable, with a mean score of 4.4 ($SD = .52$, range 2.5-5), while the operator was rated only as acceptable, with a mean score of 4 ($SD = .61$, range 2-5).

Table 6. Means, Standard Deviations, and Range for the Outcome Variables in the Target and the Control Group.

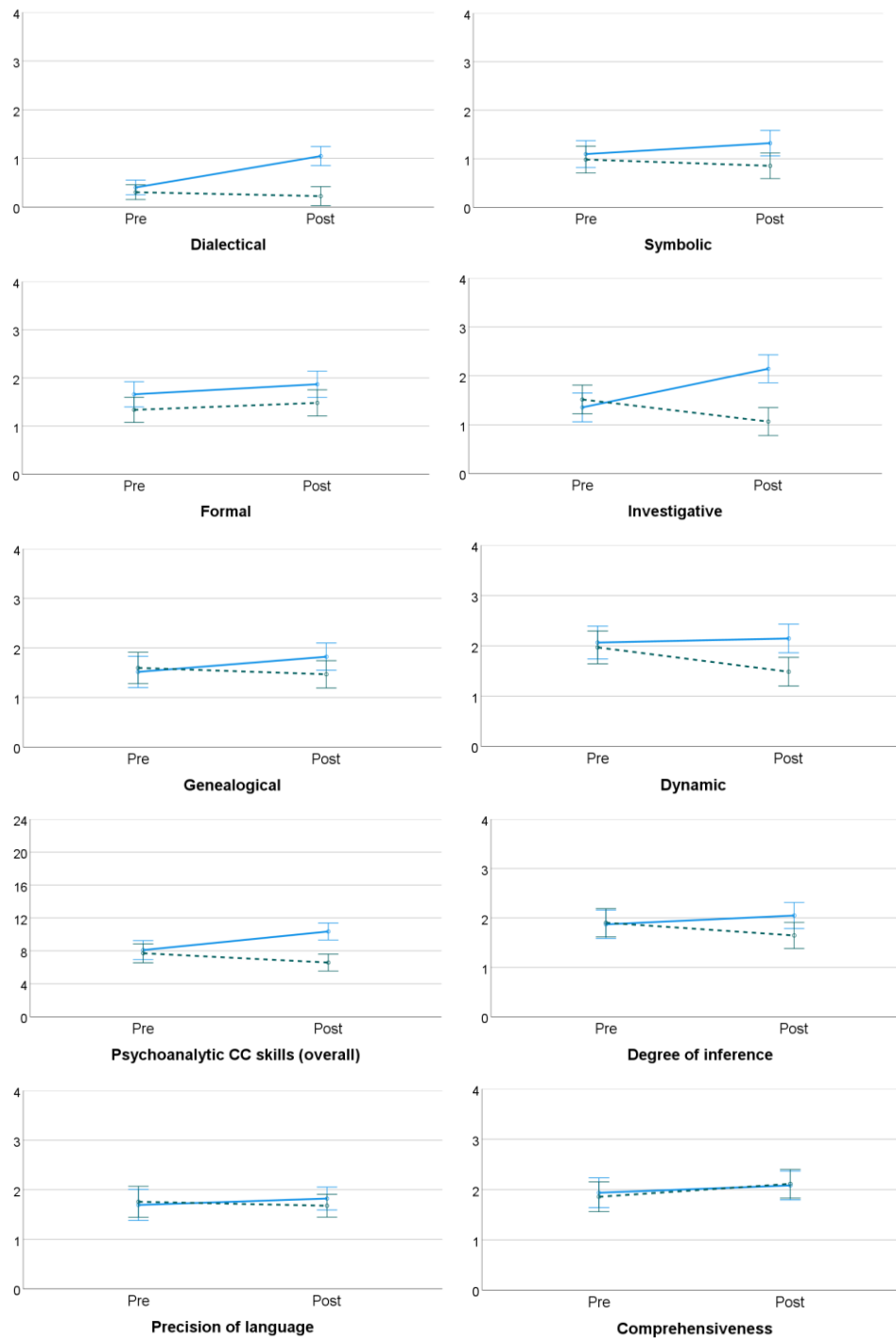
Outcome variables	Target (n = 62)						Control (n = 62)					
	Pre-test			Post-test			Pre-test			Post-test		
	M	SD	Range	M	SD	Range	M	SD	Range	M	SD	Range
Psychoanalytic CC skills												
Dialectical	0.40	.66	0-3	1.05	.98	0-4	0.31	0.53	0-2	0.23	0.49	0-2
Symbolic	1.10	1.07	0-4	1.32	1.13	0-4	0.98	1.14	0-4	0.85	0.96	0-4
Formal	1.66	1.14	0-4	1.87	1.19	0-4	1.34	0.92	0-3	1.48	0.95	0-4
Investigative	1.35	1.19	0-4	2.15	1.30	0-4	1.52	1.16	0-4	1.06	0.94	0-3
Genealogical	1.52	1.17	0-4	1.82	1.09	0-4	1.60	1.34	0-4	1.47	1.01	0-4
Dynamic	2.06	1.28	0-4	2.15	1.25	0-4	1.97	1.32	0-4	1.48	1.00	0-4
Overall	8.10	4.68	0-22	10.35	4.63	1-21	7.71	4.51	0-16	6.58	3.44	0-16
Quality ratings												
Degree of inference	1.87	1.17	0-4	2.05	1.15	0-4	1.90	1.11	0-4	1.65	0.94	0-4
Precision of language	1.69	1.20	0-4	1.82	0.97	0-4	1.76	1.29	0-4	1.68	0.86	0-4
Comprehensiveness	1.94	1.05	0-4	2.08	1.23	0-4	1.85	1.29	0-4	2.11	1.04	0-4
Overall	5.50	2.72	0-11	5.95	2.63	0-11	5.52	3.19	0-12	5.44	2.24	1-11
Self-efficacy	5.10	1.80	0-8.8	6.40	1.20	3-9	5.10	1.50	1.3-8.3	6.60	1.20	3-9

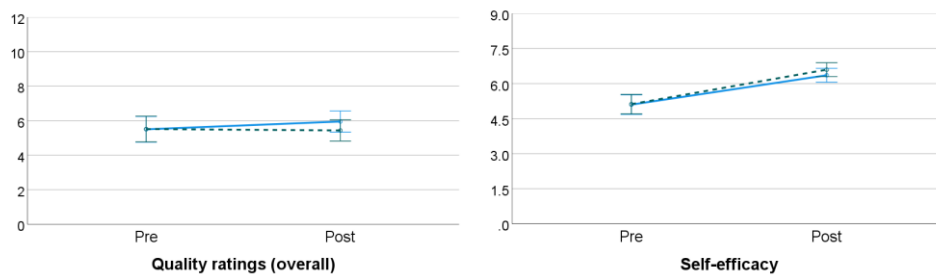
Table 7. Mixed ANOVA results.

Outcome variables	Main effects and interaction	Wilks' Lambda	$F(1, 122)$	p	η_p^2
Psychoanalytic CC skills					
Dialectical	Time	.90	12.99	< .001*	.01
	Group		22.39	< .001*	.16
	Time x Group	.85	21.47	< .001*	.15
Symbolic	Time	1.00	.16	.69	< .01
	Group		.05	.05	.03
	Time x Group	.98	.98	.15	.02
Formal	Time	.98	2.36	.13	.02
	Group		5.50	.021*	.04
	Time x Group	1.00	.08	.78	< .01
Investigative	Time	.99	1.40	.24	.01
	Group		9.39	.003*	.07
	Time x Group	.87	18.84	< .001*	.13
Genealogical	Time	.97	.49	.49	< .01
	Group		.65	.42	< .01
	Time x Group	.98	2.96	.09	.02
Dynamic	Time	.98	2.15	.15	.02
	Group		4.94	.028*	.04
	Time x Group	.97	4.21	.042*	.03
Overall	Time	.99	1.71	.19	.01
	Group		10.24	.002*	.08
	Time x Group	.89	15.38	< .001*	.11
Overall quality					
Degree of inference	Time	1.00	.14	.71	< .01
	Group		1.27	.26	.01
	Time x Group	.97	4.05	.046*	.03
Precision of language	Time	1.00	.04	.83	< .01
	Group		.07	.07	< .01
	Time x Group	.99	.83	.37	< .01
Comprehensiveness	Time	.98	2.70	.10	.02
	Group		.02	.89	< .01
	Time x Group	1.00	.21	.65	< .01
Overall	Time	1.00	.51	.48	< .01
	Group		.37	.55	< .01
	Time x Group	.99	1.05	.31	< .01
Self-efficacy					
	Time	.47	135.48	< .001*	.53
	Group		.32	.57	< .01
	Time x Group	.99	.88	.35	< .01

* $p < .05$.

Figure 1. Line Graphs Showing the Mixed ANOVA Results with 95% Confidence Intervals.





Note. Straight line = target group, dashed line = control group.

5. Discussion

Our first hypothesis (H1) was confirmed. The target intervention was effective in developing psychoanalytic CC skills. In particular, a significant effect was found on three operators out of six (Dialectical, Investigative, and Dynamic) and on the sum score for this outcome variable. This finding suggests that psychoanalytic CC skills can be effectively developed through didactic teaching, and that they constitute a specific set of conceptual skills that are not developed by learning generic CC skills. In fact, while the students in the control group started out with a comparable level of psychoanalytic CC skills as those in the target group, their skills not only did not increase pre/post, but they actually decreased. Since this decrease cannot be attributed to a fatigue effect (for fatigue would have been present in both groups), then it may be better explained by assuming that the students in the control group simply learnt to focus on different aspects of the clinical material and to apply different skills. In this way, these students may have developed generic CC skills (although these were not assessed in our study), but not psychoanalytic ones.

In line with previous studies about generic CC skills (Abbas et al., 2012; Kendjelic & Eells, 2007), our RCT shows that a time-limited intervention can effect a significant change in specific CC skills as well. However, caution is required in interpreting this change, for various reasons. First, the *change effected by the training may be of short duration*. As there was no follow-up assessment in our study,

we have no way of knowing how long the change in the students' CC psychoanalytic skills was maintained after the post-test. It might be that a 2-hr intervention is sufficient to produce a detectable but ephemeral change in psychoanalytic CC skills, and that more training is needed for a durable one. In fact, it is reasonable to assume that real competence in psychoanalytic CC skills requires prolonged training, for "like any complex skill ... competent case formulation is learned over time" (Ivey, 2006, p. 327). This idea reflects in the fact that, through the feedback questionnaire, many students expressed the feeling that they would have been better able to integrate the CC skills, had the training been conducted over multiple sessions. To meet this learning need, future research should explore the possibility of teaching psychoanalytic CC skills through spaced, as opposed to massed, education.

Second, the *change effected by the training may not generalize to real practice*. In everyday practice, therapists are required to conceptualize a case by thinking "on their feet," while at the same time maintaining a relationship with the patient. In this sense, training CC skills through pen-and-paper exercises based on clinical vignettes may not sufficiently prepare students for the reality of clinical practice. To increase the external validity of our training, a solution might be to integrate didactic with experiential teaching methods, since all complex clinical skills are best taught "via a combination of didactics, experiential learning, and supervision" (Robillard et al., 2021, p. 1). Furthermore, a future version of our training module may integrate the other 6 operators of psychoanalytic clinical reasoning, which are used by competent analytic therapists precisely to monitor the reflective positioning that they are adopting whilst carrying out the conceptual work. Reflective operators lend themselves particularly well to being taught using experiential methods.

Finally, the *change effected by the training may not reflect a real gain in competence*. A student may learn to carry out certain conceptual operations merely out of an application of didactic instructions, and not because they feel

spontaneously drawn to, as a competent analytic therapist would in their practice. This may lead to question whether an increased use of operators necessarily reflects a real gain in competence in psychoanalytic CC skills. This concern is a legitimate one; yet, it should be weighed against the fact that a certain "mechanization" of practice is typical of the early phases of skills acquisition (Dreyfus, 3004). All novices go through a phase where they explicitly think about the rules that they are applying, and thus operate a bit "like a computer following a program" (p. 177). Yet, at the same time, it is expected that the students, by gaining further competence, will be able to move beyond this stage, and learn to rely on the rules implicitly, thus gaining in naturalness and creativity. This change in the process of skills acquisition is favored by repeated exercise and situated learning, as per our two previous points.

Moving on to our other hypotheses, the one about the quality of CCs (H2) was not confirmed. The overall quality of CCs did not increase significantly in either group. This finding can be explained by the fact that only a minor part of the training module (Part III) was dedicated to a discussion of the quality criteria. In contrast, Kendjelic and Eells (2007), who devoted a larger part of their training to this topic, found a pre/post increase in overall quality. This finding suggests that, for overall quality to increase, students need to be taught about quality criteria *in addition to* whatever CC model they are being taught.

However, a significant interaction of time and group was found on degree of inference. The students in the target group had an increase in their ability to formulate links or interpretations, while those in the control group had a decrease. This finding suggests that an increased use of the operators may translate into a greater inferential activity, as evidenced also by the strong positive correlation that was found at post-test between psychoanalytic CC skills and degree of inference, $r(124) = .74$, $p < .001$. In contrast, learning to use the 5 Ps model may translate not so much in an inferential activity, but in a *classificatory* one. In fact, the 5 Ps model has been criticized for leading therapists to

categorize the clinical information into “boxes” (recognizing now this element as a protective factor, now this other element as a predisposing factor, and so on), but without really making any link between elements or interpreting them in a new way (Toews, 1993; see also Bucci et al., 2016, p. 526). This limitation is also acknowledged by Kendjelic and Eells (2007) and Abbas et al. (2012) who, for this reason, in their versions of the 5 Ps model, stress the importance of going beyond a simple “list” of factors, by identifying a mechanism that integrates them.

Our third hypothesis concerning self-efficacy (H3) was confirmed. The students’ self-efficacy significantly increased in both groups, regardless of the CC model that they were taught. The fact that the students’ confidence in carrying out CCs can be developed through time-limited interventions may be an argument in favor of including this kind of teaching format in the university curriculum. However, at the same time, the fact that the increase in the student’s self-efficacy was not accompanied by a corresponding increase in the overall quality of CCs points to the importance of using “objective” measures of competence in CC (such as the CFCCM or the POCS-6) alongside “subjective” ones, such as the self-report assessment of the students’ CC skills.

Finally, H4 was also confirmed. The teaching method was deemed acceptable by both groups, with no significant differences between them. This finding suggests that, regardless of the CC model, the didactic teaching method that was used, which involved the use of stories, movies, and vignettes, was an appropriate way of teaching CC skills to university psychology students. As revealed by the open-ended comments in the feedback questionnaires, particularly appreciated by students was the use of movies. This finding confirms previous research suggesting that the use of commercial films is particularly suited to teach CC (Misch, 2000; Warren et al., 2010). As for the CC models, we found that the operators and the 5 Ps model were both acceptable, but that the 5 Ps model was significantly more acceptable. This finding may be explained by the fact that the operators model is a more complex CC model that, as such, gives little

cognitive closure to students who approach it for the first time. In contrast, the 5 Ps is simpler and may therefore give students a sense of mastery more quickly. Furthermore, the 5 Ps model, as a well-established and widely taught CC model, may be more consistent with what the students have been taught in other courses. If so, then a greater exposure to the operators model in the future may increase its acceptability.

6. Limitations of the study

We have already noted several limitations of the present study, such as the time-limited nature of the intervention or the lack of ecological validity of exercises based on clinical vignettes. Besides these, a few more are worth mentioning.

First, it is not clear to what degree our sample reflects our target population. Most of our participants, in fact, do not have any clinical experience. It may be that more experienced trainees would not stand to benefit in an equally effective way from the training that we proposed. Furthermore, it is not clear whether our participants are “future therapists” either, for students in psychology may go on to pursue also non-clinical careers, such as research or human resources. Nonetheless, the reason why we chose university psychology students as our population is that, both in Belgium and in France, a master’s degree in clinical psychology is the gateway to a clinical career. Not only it is sufficient for practicing as clinical psychologists in these countries (unlike other countries where a doctorate might be needed), but it is also a requirement for accessing psychotherapy training, which is open, in addition to licensed psychologists, only to few other healthcare professionals, such as medical doctors. Therefore, although the universities in which the RCT was conducted do not have official statistics about the career trajectories of their students, it is likely that the majority of our participants will in fact go on to pursue a clinical career.

Secondly, the validity of our operationalization of psychoanalytic CC skills may be questioned. In particular, a

major limitation is that the POCS-6 takes a purely quantitative approach to the measurement of psychoanalytic CC skills, by counting the conceptual operations that have been carried out by students. Yet, it remains unclear whether, from a clinical point of view, *more* conceptual operations are necessarily better than fewer ones. On the contrary, perhaps few but particularly “deep” or “accurate” operations may be more effective after all. However, the problem with taking a qualitative approach to the measurement of psychoanalytic CC skills is that it would require having some standards for what constitutes a “deep” or “accurate” psychoanalytic inference. A possible approach to such a challenging task may be to ask senior analysts to provide a series of inferences on the basis of Tara’s or Edith’s vignette, and to use them as benchmark.

Finally, a limitation regards the risk of allegiance bias. Both the target and the control interventions were designed and delivered by N.F.P. and J.W., while M.H. assisted with practical aspects. However, N.F.P. is also the researcher who was involved, together with M.H., in the coding of the students’ CCs using the POCS-6. In light of this overlap between teaching and evaluating, it is conceivable that a bias might have unconsciously played a role in favor of finding an effect for the target intervention. However, in this regard, it should be reminded that the students’ CCs were transcribed in such a way that, while coding with the POCS-6, N.F.P. and M.H. were blind to whether the CC was pre or post-test, or whether it was coming from the target or control group, and that, to further preserve the coders’ blindness, students were explicitly instructed to avoid mentioning the language of the model in their CCs. Finally, it is also worth recalling that the coding with the CFCCM was conducted by two clinical psychologists who had no implication in the design of the RCT and who were not aware of the authors’ hypotheses.

To compensate for the above limitations, our RCT should be repeated in the future with some modifications. Participants should be practicing therapists, and the training should be delivered to them through spaced education. Over the course of a few months, therapists may be invited to

deliberately practice their CC skills through weekly exercises. This extended version of the training should focus on the teaching of reflective as well as conceptual operators, and integrate didactic with experiential methods. The evaluation of the therapists' CC skills should be based not on vignettes, but on the therapists' thinking about real cases from their caseload. To that purpose, methods such as reflective journals or the "think aloud" paradigm (Eells et al., 2011) may be used to collect the therapists' reflections. Yet, a more sophisticated system than the POCS-6 would be needed to code the data for the therapists' use of the operators. Finally, a follow-up assessment should be added to monitor the maintenance of the skills in the medium and long term.

7. Conclusions

This is the first RCT to provide evidence that psychoanalytic CC skills can be developed through time-limited interventions using didactic teaching methods. Our target intervention was shown to be acceptable to university psychology students as well as effective in developing their psychoanalytic CC skills, self-efficacy, and capacity to draw inferences, as opposed to summarizing the clinical material in a descriptive way.

As noted, the change that can be effected by such brief interventions is bound to be modest. The acquisition of real competence in psychoanalytic CC is a complex process that requires repeated exercise and an integration of experiential as well as didactic teaching methods. Yet, at the same time, our RCT shows that it is possible to train psychoanalytic CC skills, and that these constitute a specific set of skills that is not developed by learning generic CC skills.

The implications of the present study are not limited to the training of analytic therapists. As a generic components model of psychoanalytic CC, in fact, the operators model describes conceptual skills that are not only used across analytic schools (e.g., Freudian, Jungian, Lacanian), but that may in principle be used also by non-analytic therapists. To give but one example, "dialectical thinking" is a skill that is

valued also in dialectical behavioral therapy, and is believed to increase the competence of trainee therapists in dealing with challenging clinical situations (Robillard et al., 2021). Furthermore, the present study may be of interest to therapists from other modalities since it presents, more generally, a method for operationalizing, teaching, and measuring CC skills which makes them amenable to research, while not discounting their complexity.

Chapter 3:

Fluid and crystallized knowledge in psychoanalytic clinical reasoning

The relation between operators and theory

Psychoanalytic clinical reasoning is the inferential process by which analytic therapists are able to develop an understanding of the clinical material. According to a model that is widely held among both detractors and supporters of psychoanalysis, this process would consist in the application of psychoanalytic “theory” to the clinical material. In this chapter, we argue that this model, which entails a deductive view of clinical reasoning, does not reflect the reality of everyday clinical reasoning by competent analytic therapists, and that the crux of the process rather consists in the mobilization of a set of families of conceptual and reflective functions, which we call the operators. We explain why the operators are not “theory,” in any of the senses in which this term is used in the relevant literature (public, private, or core theory), and propose to think of the relation between the operators and theory as that between two different kinds of knowledge: fluid (i.e., implicit, procedural, formal) and crystallized (i.e., explicit, declarative, content-based) knowledge, respectively. In our model, while fluid knowledge is the one that is actually used to draw clinical inferences, crystallized knowledge is relied on as a frame that gives fluid clinical reasoning its context of justification.

Reference

Polipo, N. F., Willemsen, J., & Corfield, D. (accepted pending minor revisions). Fluid and crystallized knowledge in psychoanalytic clinical reasoning: The relation between operators and theory. *Journal of Theoretical and Philosophical Psychology*.

Fluid and crystallized knowledge in psychoanalytic clinical reasoning

The relation between operators and theory

In this chapter, we are going to focus on *the Clinical Reasoning (CR) of analytic therapists*, which can be defined as the inferential process by which they are able to develop an understanding of the clinical material. This focus of ours comes with two necessary limitations. The first is that, although CR is a central aspect of the analytic process, it constitutes by no means the whole of it. Analytic therapy, in fact, is not only about gaining insight or self-knowledge, but also about (re)-living certain emotional experiences in the space offered by the analytic encounter and working them through (Freud, 1914). The second limitation is that although we focus here on the CR of therapists, therapists are by no means the only ones contributing to an understanding of the clinical material. Not only because, as Jung (1961) notes, “the process of interpretation consists in the confrontation of two minds,” the therapist’s and the patient’s (para. 497). But also because, from a clinical standpoint, “it makes very little difference” whether the therapist “understands or not, but it makes all the difference whether the patient understands” (Jung, 1934, para. 314). Having said that, insofar as it is possible to say something meaningful about the process of CR while abstracting from the complexity of this “joint reflection” (para. 314), in this chapter we shall address the question of *how therapists, for their part, come to understand the clinical material*. To answer this question, we are going to oppose two models: one, according to which the crux of the process consists in the application of “theory”; and another, according to which the crux consists in the use of certain knowledge structures, called the “operators.”

1. The theory model

What we shall call “theory model” is a model of CR according to which analytic therapists would understand the clinical material by applying theories to it. This model is widely held, first of all, among detractors of psychoanalysis. Let us take, for instance, Popper’s (1962) classic critique of psychoanalysis. Popper uses the example of “a man who pushes a child into the water with the intention of drowning it,” or that of “a man who sacrifices his life in an attempt to save the child,” and notes how both cases, albeit opposite, would be explainable by a Freudian therapist with the same theory: in the first case, by inferring that the man “suffered from repression (say, of some component of his Oedipus complex)”, and in the second, by inferring that he “had achieved sublimation” (p. 35). Similarly, a therapist who was working within, say, an Adlerian theoretical framework, may infer the existence of “feelings of inferiority” leading the man in the first case “to prove to himself that he dared to commit some crime,” and the man in the second case “to prove to himself that he dared to rescue the child” (p. 35). The model of CR that is implicit here is one in which analytic therapists understand the clinical material by applying *theories* to it – be it Freud’s theory of the Oedipal complex, Adler’s theory of the inferiority complex, or any other theory to which they may subscribe.

But the theory model is commonly held not only among detractors of psychoanalysis, but also among many of its supporters. To use but one recent example, let us take the large-scale research project on the epistemological foundations of psychoanalysis that was coordinated by Riolo (2022) and funded by the International Psychoanalytic Association. Riolo explicitly compares analytic therapists to scientists using theories to explain observations: just as the “task of a scientific theory is to order a domain of observable phenomena on the basis of a principle of explanation,” so “in our [clinical] work we make use on the one hand of certain theories and on the other of a quantity of experiences” which have to be “explained” (p. 7). Here we come across the

theory model again, but as it informs the understanding that analytic therapists have of what they *themselves* do. According to this self-understanding, what they do is apply theories to explain observed phenomena. Under this model, only two realities exist, albeit “mutually supportive”: “theories,” on the one hand, and “observations,” on the other (p. 8).

1.1 Public, private, and core theory

The theory model is nonetheless made more complex by the fact that the term “theory” is used by different authors to mean different things. On the basis of the relevant literature, we can distinguish between three main senses in which the term is used: public, private and core theory.

Public theories are systems of ideas that have been put forth by one or more authors, typically in the form of an academic publication, and accepted by the psychoanalytic community of reference. The main function of public theories is to explain aspects of the world (Stiles, 2015, p. 6), and can thus be classified on the basis of their *explanandum* (e.g., meta-psychological theories, pathogenetic theories; see also Riolo, 2022, p. 14). Freud’s theory of the Oedipal complex or Adler’s theory of the inferiority complex, from Popper’s examples, are classic illustrations of public theories. In fact, Canestri (2006) defines a public theory as a “formal theory” *in the Popperian sense* (p. 8). We can differentiate, then, between this technical sense of the term theory, corresponding to what Riolo (2022) also calls “a *system of invariant relationships*” (p. 7, emphasis in original), and the commonsense use of the term, by which theory can mean any “ordering of facts made after the experience of the facts” (p. 8-9). This distinction mirrors the one made also by Bion (1963) between “a theory as that term is employed to describe the systems used in rigorous scientific investigation” and the term “theory” as it is used “in conversational English” (p. 1). On the other hand, the term “public theory” is often used in a way that includes also public *concepts*, which can

be seen as being used as theories in condensed format (e.g., the concept of “inferiority complex”).

Private theories are unofficial systems of ideas that, unlike public theories, are held and used implicitly. Sandler (1983) defines them as “partial theories, models or schemata” or preconscious “conceptual structures” (p. 38). In Sandler’s use of the term, private theories can be either completely idiosyncratic, as “dimensions of meaning of a theoretical notion or term *within the mind of any individual psychoanalyst*” (p. 36, emphasis in the original); or specific to a community of therapists that understands or uses a public concept in a way that differs “from the public definition” (p. 38). Sandler’s notion of private theories has been expanded by the Working Party on Theoretical Issues (WPTI) of the European Psychoanalytic Federation (Canestri, 2006), which lists as private theories also factors such as a therapist’s political ideology, religion, cultural background, or scientific perspective (p. 32-35). According to the proponents of the private theory model, the crux of everyday psychoanalytic CR would not consist in the use of public theories, but of private ones. As Canestri (1999) suggests: “in most interventions we use private schemata rather than official theories” (p. 185).

Core theory is a term used by Fonagy (2006, p. 80) to refer to some fundamental assumptions that would be shared by all analytic therapists as such. The notion of core theory can be used to summarize what other authors have referred to as a “minimal set of assumptions on which the psychoanalytic theory rests” (Rapaport & Gill 1959, p. 153); “a certain number of basic postulates” (Ramzy, 1974, p. 545); “certain assumptions about how the mind works” (Messer & Wolitzky, 2007, p. 76); or psychoanalytic “axioms” (Riolo, 2022, p. 7). Freud, too, uses the language of core theory in *An Outline of Psychoanalysis* (1940), insofar as he seeks to outline the *Fundamentalen Annahmen* or *Grund-Voraussetzung* of psychoanalysis. Each author gives their own list of “core assumptions,” but examples include assumptions around psychic determinism or the idea of behavior as unconsciously motivated (Pine, 2006, p. 480).

Fonagy suggests that public theories develop out of core theory by “over-specification” (2006, p. 81), becoming indeed too *specified* to be shared by analytic therapists from all schools of thought.

1.2 Theory and deduction

Especially in the case of public and core theory, the theory model carries with it a deductive view of psychoanalytic CR. In the case of public theories, CR is construed as a sort of syllogism in which a general theory appears as a major premise, an observation about a particular case appears as a minor premise, and the conclusion consists in the application of the theory to the case. Adapting from Mill (1843/2008, p. 240), we can formalize this inferential process as follows: (i) “A class of patients has a given attribute”; (ii) “This patient resembles the class in certain other attributes”; (iii) “Therefore the patient resembles the class also in the given attribute.” In the example used by Popper, for instance, the CR process would be: (i) “Certain patients who commit crimes do so out of feelings of inferiority to prove that they dare commit an extreme act”; (ii) “This patient resembles that class of patients in that he committed a crime”; (iii) “Therefore, the patient committed the crime out of feelings of inferiority to prove that he dared commit an extreme act.”

Such an inferential process would not be a “deduction” in the narrow sense of formal logic, meaning an argument in which, if the premises are true, the conclusion must necessarily be true. In fact, as Mill notes, the minor premise, by which a patient is judged to *resemble* a certain class, requires an “interpretation” of the major premise, and therefore a mental act that makes the whole operation fall into the domain of “hermeneutics,” and not strictly of logic (p. 230). However, such a process may be said to be deductive in the broader sense of a “top-down” reasoning that starts *from* the general (theory) and applies it *to* the particular (case).

But precisely because the whole process rests on a correct interpretation of the “marks” by which a particular case can be said to belong to a certain class (Mill, 1843/2008, p. 241), it follows that what a good theory should do, under this model, is to specify such marks *as clearly as possible* (for instance, by specifying *what* patients, committing *what* crimes, under *what* circumstances), which is what, according to Popper, psychoanalytic theories typically fail to do. Similarly, Riolo (2002) views psychoanalytic theory as ideally supposed to function as a “deductive system” (p. 7), from which univocal and unambiguous clinical hypotheses can be drawn. From which it follows that public theories should be made “sufficiently *identified and distinct* so as to make their confirmation or falsification possible by means of observations” (p. 191, emphasis in original). The use of Popper’s keyword (“falsification”) confirms that we are moving within the same model.

In the case of core theory, the deductive view of CR is even clearer, insofar as case-level inferences are explicitly seen as “descending” from first principles:

[scientific theories are] based on certain propositions of a very general character ... employed as premises from which lower-level hypotheses (inferences) are derived; these in turn function as second-level axioms, from which subsequent inferences are derived. The axiomatic method is therefore *descending*” (Riolo, 2022, p. 7, emphasis added).

On the model of geometry, the idea is that if one were to follow the inferential process *backwards*, one would arrive to “a certain number of indemonstrable axioms” that are “presupposed to be correct” and “assumed a priori” (p. 7).

The deductive view of CR that is associated to the theory model exposes psychoanalysis to a number of criticisms that could be avoided, if only analytic therapists were to base the understanding of their own practice on a different model. For instance, Michael (2019) revisited Grünbaum’s argument that Freud’s clinical inferences are logically fallacious, by reconstructing Freud’s CR on a specific case. In doing so, he was able to show how Grünbaum

“misunderstands Freud’s reasoning,” insofar as he judges it by the “measure” of “deductive reasoning” (p. 231-232) and “interprets Freud as making deductive inferences” (p. 235). Instead, Freud’s reasoning can be shown to be perfectly plausible, if looked at as a non-deductive form of CR. However, we further suggest that a better model of psychoanalytic CR might be one that abandons not only *deduction*, as the form of reasoning through which the CR process is supposed to be carried out, but also *theory*, as the kind of knowledge that, through deduction, is supposed to be applied.

2. The operators model

Recently, we have proposed a model of psychoanalytic CR alternative to the theory model, called the “operators model” (Polipo, Willemsen, & Kallai, 2024). The operators model was based on an exploratory study of the CR process by competent analytic therapists. We recruited a group of senior supervisors from a variety of analytic schools of thought (e.g., Freudian, Lacanian, Jungian) with an average of 27 years of clinical experience, and asked them to record a session with one of their supervisees. Then, we organized a retrospective online interview in which the recording of the session was played back in its entirety, and the supervisor was invited to make explicit the CR process that they had gone through at the time of the session, while they were listening to and processing the clinical material. This exploratory study led us to observe that participants did not really understand the clinical material by applying “theories” to it. Rather, they seemed to do so by executing a series of implicit but recurrent mental acts.

This made us interested in spelling out the different mental acts that were executed, and to that purpose, we turned to Bion’s theory of functions (1962). Building on Bion, we defined a “function” as a mental act carried out by an analytic therapist to advance their understanding of the clinical material, *minus* the content coming from the particular case at hand. To illustrate, let us take a supervision

session in which the therapist (T) was reporting the case of a patient (P) with difficulties socializing. One day, P decided to get out of the house and study at the university, only to find that a problem with the library's server made it impossible for him to work from there. At this point, the supervisor (S) carried out a mental act by inferring that the problem might have laid also with P's "internal server," which was overloaded with social stimuli. In this case, the underlying function can be spelt out as the mental act of *interpreting an external element* ("library's server") *as the representation of an internal one* ("internal server"). Functions represent the "empty" form of a mental act. When this form is "filled in" with particular elements from the clinical material, we say that a function has given rise to an *operation*.

As our study shows, some functions appear to revolve around the same core idea. For instance, the function from the example was eventually grouped with other ones that revolved around the core idea of "metaphors" (see Table 4 from Chapter 2). In this way, we were able to identify a finite set of *families of functions* that appeared to be used by competent analytic therapists regardless of their school of thought and regardless of the content coming from the particular case at hand. These families of functions are what we call the "operators." In our study, in particular, we identified a total of 12 operators. However, 6 of them appear to be prevalently used for *conceptual* purposes (to select, link, or transform elements of the clinical material); while the other 6 appear to be prevalently used for *reflective* purposes (to adopt and maintain the right "position" or "posture" in the CR process). In this chapter, to simplify the discussion, we are going to focus on the 6 conceptual operators. Table 4 reports their core ideas and a non-exhaustive list of functions within each family.

According to the operators model, the crux of everyday psychoanalytic CR does not consist in the application of "theory" to the clinical material, but in the *chaining of operations using functions from different operators*. To illustrate, let us come back to the example above. P, an adolescent boy, was being seen by T, a young woman. In the

course of the supervision session, while listening to and processing the clinical material provided by T, S was able not only to make single operations, such as the one about P's internal server, but also to weave them into an *overall hypothesis* about what was happening with that case. In particular, S's hypothesis was that an unidentified erotic (counter)-transference was developing between P and T. But how did S arrive at this hypothesis? By carrying out a series of operations using functions from different families, such as: *noticing a pattern by which T was going out of her way to help P* (for instance, offering to accompany P to the library) (Formal operator); *noticing that whenever T talked about P, she got visibly animated* (Dynamic operator); *contrasting that with T's unusual insistence that sessions with P were "boring"* (Investigative operator); and ultimately *turning T's proposition ("sessions are boring") into its opposite ("sessions are exciting")* (Dialectical operator).

2.1 Theory vs operators

Several findings from our empirical study run counter the theory model. (i) *Commonality*. The operators were found to be used by participants who came from a variety of analytic schools of thought and subscribed to different public theories. (ii) *Language*. During both the supervision session and the interview, participants rarely used a theory-laden language, but rather expressed their inferences in an experience-near and jargon-free language that remained at the level of the case. (iii) *Form of reasoning*. As illustrated by S's overall hypothesis, everyday CR by competent analytic therapists is best described not as a form of deduction, but rather of *induction*, where the term is to be intended again not in the narrow logical sense (as a logically defeasible process of generalization from a number of observations), but in the broader sense of an inferential process that works "bottom up" *from* the elements of the clinical material *to* a hypothesis that may fit them. To be even more precise, it has been suggested that psychoanalytic CR would be best described in terms of "abduction" (Kettner, 1991; Michael, 2019). This

form of reasoning differs from both deduction and induction in their narrow logical sense, and consists in an inference that goes from a set of surprising facts to a hypothesis that, if it was true, would make such facts “a matter of course” (Peirce 1998, p. 231). However, while the process by which S arrived at his overall hypothesis may be described in terms of abduction, the same cannot be said of his single operation about the internal server. Such an inference, strictly speaking, does not conform to any of the forms of reasoning contemplated in formal logic, and may be better understood in the context of so-called “informal logic” (Ahumada, 2006, p. 138). (iv) *Modularity*. The complexity of an instance of CR appears to be directly proportional to the number of operations that underpin it. While a simple instance of CR, such as S’s inference about the internal server, can be shown to be underpinned by a single operation, and a more articulated interpretation to be underpinned by two or more operations, an overall hypothesis, as illustrated above, is typically underpinned by a chain of operations using functions from most or all of the operators. This “modular” dimension of CR is hard to explain within a model in which a monolithic entity, such as a theory, is applied; while it makes sense in light of the idea that CR consists of a series of discrete mental acts (the operations). (v) *Time-boundedness*. S did not arrive at his overall hypothesis until the end of the session with T, and continued to develop it even during the retrospective interview. The fact that hypotheses do not jump full-grown out of the therapist’s forehead, but take time to develop and are in fact “given birth to,” to use the words of another supervisor from our sample, is another aspect that is not coherent with the idea that the CR process would consist in the application of a theory. This gestation period, on the other hand, is very much coherent with the idea of a gradual application of operators onto the clinical material, as it unfolds in the time-to-time flow of the sessions, in a way that may in time lead to larger abductive processes. (vi) *Purpose*. Finally, the theory model implicitly suggests that the purpose of CR would be *explaining* the clinical material, as per Riolo’s (2022) analogy between analytic therapists and natural

scientists. However, the example about the internal server makes it clear that S did not offer such an inference so much to “explain” P’s experience, but to *make sense* of it so that P may have been able to integrate it. If P goes to the library and finds that he cannot work from there, that is just a raw or brute fact, something that happened to him: in Bion’s terms, a “beta-element.” But if P can bring meaning out of his experience, he can turn it into a digestible (alpha) element. According to our model, and in line with Bion (1962), the purpose of CR is thus not to explain experience, but to develop a capacity to *learn* from it.

2.2 Why operators are not theory

It is important to explain why operators are not “theory” in any of the senses outlined above. The simplest difference to establish is the one between operators and public theory. Operators are not public theories because public theories are what identifies each analytic school of thought and differentiates it from the others. As such, public theories are a well-known cause of division among analytic therapists, as Freudians do not subscribe to the same theories as Jungians, nor Klenians to those of Anna Freudians, and so on. In contrast, the operators were found to be commonly used by analytic therapists from different schools of thought.

However, operators are not private theory either. For although they too are used implicitly, they are not “private” either in the sense of being specific to a particular community of therapists or, even less, of being completely idiosyncratic. On the contrary, as noted, operators are *shared* by analytic therapists. Moreover, another key difference is that the notion of operators is intended to describe what makes the process of psychoanalytic CR *such*. In contrast, as long as factors such as political ideology or religion are listed as private theories, then it is not clear whether these are the forms of knowledge *thanks to which* analytic therapists are able to develop an understanding of the clinical material, or those *despite which* they may be said to be able to do so. To use an analogy, if our task was to understand the process by

which competent golfers are able to put a ball in the hole, then our model should describe the skills that they are able to mobilize (e.g., grip, swing), and not list all the factors that may adversely influence the trajectory of the hit (e.g., wind, rain). Similarly, what should enter a model of CR is not a list of the infinitely varied ways in which a therapist may be prejudiced, but, at most, a description of the skills they should be able to mobilize to correct for those disturbing influences. As Jung (1961) notes, the “analyst’s mind is characterized by a number of individual peculiarities” which “have the effect of prejudices” (para. 497). But “if you want to understand” the clinical material, then “you have to sacrifice your own predilections and suppress your prejudices” (para. 505).

This criticism to the private theory model is also linked to the fact that, insofar as some of the system of ideas listed as private theories can be completely idiosyncratic, then it is questionable whether they deserve the name of “theory.” As Stiles (2015) notes, theories “must be distinguished from the epistemologically private ideas the theories express or convey,” for theories “are public,” “unlike their meanings” (p. 7). In light of the inherently public dimension of theories, something like a private theory sounds like an oxymoron. As suggested by Dreher (2000), it may be preferable then to talk instead, and more generally, of “implicit knowledge” (p. 169), a term under which both operators and private theories may be subsumed. For instance, the use of “metaphors” (Canestri, 2006, p. 33), which the WPTI also lists as a factor characteristic of the preconscious work of analytic therapists, can be seen to join the Symbolic operator in our model.

Finally, operators are not core theory either. For functions are not statements or propositions *on the basis of which* inferences are drawn, but are themselves the mental acts *through which* inferences are drawn. This reflects in the fact that functions are not expressed through the static language of geometry axioms or postulates, but through what we may call an “action language” (see Table 4). Operators-driven inferences may thus be said to *rest on* core theory, but not coincide with it. As Kettner (1991) also notes, a

distinction has to be made between the “background assumptions” *against which* the inferential process takes place, and the “explanatory resources” *through which* inferences are drawn: “Such assumptions ... are not themselves formal principles” (p. 165-166). To illustrate, let us take again S’s inference about the internal server. It is clear that such an inference was made against the background of some theoretical assumptions: say, the assumption that human behavior is overdetermined. But this kind of generic assumptions happen to underlie *most* clinical inferences in psychoanalytic CR, and are thus insufficient to account for their variability. If, in each case, a therapist had only such assumptions to rely on – as suggested, for instance, by Ramzy (1974), who thinks that they may be “all that psychoanalysis employs in exploring the mental life of man” (p. 546) – then *in virtue of what* would they be drawing the inferences? If we do not admit the intervening role of a domain-specific knowledge between core theory and a particular inference (such as the operators), we are forced back to a model in which that *through which* inferences are drawn are merely “formal logical principles” (Kettner, 1991, p. 166), such as deduction. But an inference so specific as the one about the internal server, for instance, could not possibly have been deduced by S moving only from a generic assumption about psychic overdetermination, on the one hand, and the available information about P’s visit to the library, on the other. If anything, as Kettner suggests (1991), background assumptions may intervene to impose a certain order of “plausibility” on the “infinite space of logically possible explanations” (p. 165) or, shall we say, ways of learning from experience – e.g., by funneling the use of those explanatory resources to the application of a particular operator to a particular element of the clinical material. Where, for the application of the operators not in single operations but in chains that may give rise to larger abductive processes, not only core theory may work in such a way, but also general criteria for the evaluation of hypotheses, such as simplicity, coherence, or breadth (cf. Michael, 2019, p. 234).

To illustrate in another way the distinction between *drawing* an operator-driven inference and *relying* on a core assumption, let us take the Genealogical operator. A function in this family is a mental act by which the “origin” is taken to be that which holds the key to the rest of a process (Table 4). A classic way in which this function is used by analytic therapists is by attaching a lot of importance to childhood (as the “origin” of human life). And in using the function in this way, analytic therapists may be said to rely on an assumption about how the mind works: namely, “the idea of the crucial developmental impact of early ... experience, having some continuity over time” (Pine, 2006, p. 481). However, the same function is commonly applied by analytic therapists also to other contents: for instance, in inferring that the first session contains what is important about the rest of a therapy, or the way in which a patient starts a session contains the key to the rest of the hour. These three examples are all applications of the same function from the same operator. But the last two do not rest on the same core assumption on which the first may be said to be based. Nor can one multiply assumptions *sine necessitate* – for instance, by postulating the existence in core theory of an assumption about the first session, another about the beginning of a session, and so on – for, according to the law of parsimony, there would be a simpler way of explaining the similarity between these inferences: i.e. the postulation of a single, Genealogical operator. And yet, at the same time, as per Kettner’s suggestion (1991), the role of core assumptions may be that of filtering out certain uses of the Genealogical operator, which would not *make sense* in light of what is known about how the mind works (say, an inference that the “the first word in each sentence is the most important”).

To summarize all of the above, let us take an example from Bion (1963):

Suppose that a patient is angry. More meaning is given to a statement to that effect if it is added that his anger is like that of a “child that wanted to hit his nanny because he has been told he is naughty.” The statement in quotation marks *is not an expression of a theory ... It*

must not be supposed to express a theory that small boys hit their nannies if they are called naughty" (p. 12, emphasis added).

The inference considered here by Bion could be operationalized in various ways according to our model, depending on whether the context reveals it to be intended as the mental act of establishing an analogy between the way in which the patient is angry and a child can be (Formal operator); as the act of producing a metaphor to describe the patient's state of mind (Symbolic operator); or as the act of bringing the patient's anger back to its earliest possible version (Genealogical operator). But however one chooses to operationalize this inference, no "theory" was used here. And yet, as Bion continues to note, "statements of this kind," which are neither "statements of observed fact" nor "formulations of a theory," are not only typical of everyday analytic work, but they are required "as part of analytical scientific procedure and equipment" (p. 12). Most instances of psychoanalytic CR mobilize this kind of knowledge that is not theory, and which has been overlooked so far, although hidden in plain sight. We may say, somewhat provocatively, that operators are *the most common but least talked about* kind of knowledge in everyday CR, while theory is *the most talked about but least common*.

3. Fluid and crystallized knowledge

Of the three senses in which the term "theory" is used, *public theory* is the most common. In the second part of this chapter, then, we wish to articulate more specifically the relation between operators and public theories. To do so, we propose to draw from the distinction between fluid and crystallized abilities that was proposed by Cattell (1943) in the context of the study of intelligence. In Cattell's definition, fluid ability "has the character of a purely general ability to discriminate and perceive relations between any fundamentals, new or old," while crystallized ability "consists of discriminatory habits long established in a particular field" but "no longer requiring insightful perception for their

successful operation" (p. 178). Although Cattell's distinction concerned two kinds of intelligence, we wish to apply it here to two kinds of *knowledge* that would be mobilized by analytic therapists in their CR. *Crystallized knowledge* can be defined as the knowledge of the conclusions that have been previously reached on cases comparable to the one at hand, and which the therapist is able to retrieve from memory and introduce in their CR process. *Fluid knowledge* can be defined as the knowledge of the reasoning abilities which the therapist is able to apply ex novo to the clinical material and in a tailored combination of operations, thus arriving at conclusions that may or may not conform to their crystallized knowledge. We suggest that the knowledge of public theories is an example of crystallized knowledge, and that of the operators is an example of fluid knowledge. The mobilization of the first kind of knowledge may be called, for short, crystallized CR; that of the latter, fluid CR.

To illustrate the difference between these two forms of CR, let us take an example. Wolitzky (2007) discusses the CR process of a Freudian therapist who, on the basis of a series of patient communications, extracts "the repetitive theme of feeling trapped and stuck" (p. 32). He comments that the extraction of this theme is a "fairly low level of inference" (p. 32) which, not being tied to any specific theory, could be carried out by analytic therapists from other schools of thought. Then, he contrasts this inference to another one, by which the Freudian therapist goes on to hypothesize that, "underlying the patient's claustrophobic anxieties," there would lie an unconscious "fantasy of *vagina dentata*" (p. 31). Wolitzky notes that this inference, on the other hand, is more "theory-driven" (p. 31) and less close to the clinical material. Also, being dependent specifically on a Freudian theoretical framework, it is not likely to be drawn by therapists from other schools of thought.

We may say that the first inference is an example of fluid CR, as it mobilizes the knowledge of operators (in this case, the Formal operator); while the second inference is an example of crystallized CR, as it mobilizes the knowledge of a particular public theory (the theory of the *vagina dentata*).

The inferences drawn through these two forms of CR differ in various respects. The first works bottom-up or inductively; leaves room for other inferences to be “stacked” on top of it; and is expressed through a natural language that remains close to the clinical material. The second works top-down or deductively; quickly saturates the understanding of the clinical material; and is expressed through jargon. The first can be compared the development by a programmer of a new piece of code from scratch; the latter can be compared to the insertion of a snippet of ready-made, reusable code.

But our suggestion is that the differences between these two inferences are explained by the fact that the *very kind of knowledge* on which they are based is not the same. Having knowledge of a theory, such as the theory of the vagina dentata, means being familiar with a particular “apparatus of statements” (Riolo, 2022, p. 175) that one is able to retrieve from memory and express in propositional form. Since a theory comes with its own content, then when the theory is inserted in one’s CR, its content gets “transferred” to the inference. The idea of the “vagina dentata,” for instance, did not come from the clinical material but was pre-existing, i.e., it was brought over by the theory itself. Crystallized knowledge may thus be characterized as a form of *explicit, declarative, and content-based* knowledge. In contrast, fluid knowledge is *implicit, procedural, and formal*. Having knowledge of the operators does not mean so much knowing something, but *how to* do something (e.g., how to think dialectically, symbolically)¹. It means possessing certain *skills* that are difficult to be verbalized and are better demonstrated in action. These skills, what is more, do not have a content of their own, but are “empty” thought-forms. When the Formal operator was applied to the clinical material, a particular theme was extracted (“feeling trapped and stuck”). But the content of this theme did not come from the operator, nor was it pre-existing in the therapist’s mind.

¹ On the other hand, knowing *how to* apply a theory (i.e., intelligently relate its “marks” to the elements of the clinical material) is a process that would still require some kinds of procedural knowledge.

Rather, it was generated “anew” from the application of the operator to the clinical material.

Having characterized operators and public theories as two different kinds of knowledge, it remains to be clarified what role each of them has in everyday CR. Now, as the example from Wolitzky (2007) shows, in principle both fluid and crystallized knowledge can be used as *knowledge bases through which clinical inferences are drawn*. However, we suggest that, in everyday CR by competent analytic therapists, fluid knowledge is the one that is mostly used for this purpose. In our study, “high-level” inferences such as the one about the vagina dentata were very rarely drawn by the supervisors. If anything, the supervisees (who, in our study, were on average less experienced analytic therapists) were more likely to occasionally draw this kind of inferences – besides, only to be invited by their supervisors to “fly lower,” that is, to remain closer to the clinical material.

But if fluid knowledge is the one that is mostly used to draw inferences by competent analytic therapists in everyday CR, then *what is crystallized knowledge for?* In the remainder of this article, we wish to argue that crystallized knowledge does have a role in CR, simply not as a basis to draw inferences, but as a “frame” to support fluid CR.

3.1 Theory as frame

To illustrate, let us return to the case of the S who formulated the inference about P’s internal server. During the interview, after listening to a sequence in which T had been describing the sessions with P, S stopped the recording and explained that he remembered having noted something at that time in the supervision session. What S had noted was a transformation from a scenario that had been painted by T, and in which “nothing happened” in the sessions with P, to a number of other scenarios in which “very strong emotions” were actually playing out between them. S explained that picking up this kind of transformations requires being sensitive to “very subtle aspects, sometimes very difficult to spot.” For S, part of his job is to focus precisely on these

aspects which “are not directly related to the content of what is being told.” It is about focusing on “spotting these little transformational aspects – more than on the content of what is told or described in the session.”

In this fragment, S’s CR process can be described as relying on several operators, including the Dialectical (noticing the transformation of a first scenario into a second one with opposite qualities), Investigative (focusing on the “subtle/difficult-to-spot” aspects that can reveal a hidden truth), Formal (noticing the commonality between a number of scenarios characterized by common features), and Dynamic operator (focusing on the presence or lack of emotions in T’s retelling of the case). However, since this fluid knowledge was acting implicitly in his CR, S did not acknowledge it. Rather, to explain his CR process, he referenced some theoretical notions. In particular, S noted that the sequence lent itself to be understood in terms of the concepts of “psychic scene” by Antonino Ferro and “transformation” by Christopher Bollas². At this point, however, the interviewer asked S: “But these theoretical ideas (the idea of scene, of transformation), did you have them in mind *at that time*, [while you were] listening to T?”. To which S laughed and responded:

Good question. So, um.. yes and no ... [I am very fascinated by] this question of how ... the training (including the theoretical training) of the therapist, but certainly also of the supervisor... um, creates a kind of background scenery [*décor d’arrière-fond*], if you like, which is both there and not there.

To explain what he meant, S used an example. He told the interviewer, who at that time was sharing his screen on Zoom, that in the brief moment when he had started the

² It is interesting that S invoked two concepts from two different authors, as if suggesting that he would have *combined* them in drawing the inference. For while the idea of combination is central to the operators model (where functions from different families are seen as being chained together), the same idea is problematic to the theory model, where theories are to be kept *as distinct as possible* (cf. Riolo 2022).

application to play the recording of the session, S had noticed that, as a desktop background of his PC, the interviewer had the image of an Italian city:

That's exactly it: that is to say, how this image in the background is there without being there. Well, you don't spend your time in front of your computer thinking about [that image] ... But at the same time it's there, you see? And so I think that the theories that drive us are a bit like that, it's a sort of background ... I'm not sure that I was conscious of really thinking about Bion, Ferro, Bollas or I don't know what; no, probably not really. But T could have asked me "well, what made you say that?" or "how do you theorize it?", and I right away would have been able to tell her.

Just as the desktop is the platform or surface on or against which, and not *through which*, we carry out the daily operations on our PC, so our crystallized knowledge of public theories can be seen as the frame upon which our operators-driven inferences take place, rather than that through which they are carried out. This important difference gets obscured by the fact that, when analytic therapists are asked to explain their CR process, they *retrospectively* refer to theory, as S did in this example. This is presumably due to the fact that theory (unlike operators) is an explicit kind of knowledge, which is thus easier to retrieve. But while it may be easier for analytic therapists to retrieve from their memory bits of crystallized knowledge, this does not mean that it is through those bits that they actually carried out the CR process. To put it with Mill (1843/2008), S did not arrive at his hypothesis through "the 'high priori road'" of theory (p. 222). Ferro and Bollas may have been in the back of S's mind, but not as premises in a syllogism. The only "object" occupying his mind at that time was probably *neither theory* (present only as a frame), *nor operators* (relied upon implicitly), but rather the *concrete elements of the clinical material*. And yet, S cannot be said to have been guided by the clinical material alone, for the material contains no indications as to how it wants to be organized. Analytic therapists struggle to bring the operators

of their CR into view insofar as these constitute the *a priori knowledge structures* by which they habitually bring meaning out of the clinical material³.

3.2 The loom analogy

Our idea that theory works in everyday CR primarily as a frame echoes Ahumada's (2006) suggestion that psychoanalytic theories consist primarily of "frame-theories," which are theories that "do not sustain strict deduction" but "serve as general settings for thought," and correspond "to the explicit parts of our ever-present background knowledge" (p. 140). However, what remains to be clarified is *in what way*, exactly, would theory be supporting fluid CR as a frame.

We suggest that the kind of support that is offered by the crystallized knowledge of public theories in the CR process can be likened to that which is offered by the nails in a loom in the process of weaving a thread. Public theories are neither the thread that is being weaved (the clinical material), nor the needles or other instruments through which the weaving is being carried out (the operators), but rather the nails that are distributed along the loom and constitute its *frame*. While weaving, one is occasionally led to "knot" the thread around one of these nails; and this act is needed to give stability to a process that would otherwise be hanging on air. But if one were to ask someone who knows how to weave: "How do you do it?", they would hardly be satisfied with the answer: "Thanks to the nails!". The nails are what keeps the loom together; but as such, they do not do any work. The work rather consists in the manipulation of the needles as that *process* which is made possible by the existence of the frame as a "non-process."

To illustrate, let us return to Popper's example about the patient who committed a crime. A therapist may be led, not by the deductive application of Adler's theory, but *by their*

³ Riolo (2022) implicitly refers to Kant when he writes that: "Without experiences theories are empty, and without theories experiences are blind" (p. 9). But not all that is "a priori" must be *theory*. Kant's twelve a priori categories, just like our operators, are not theories.

own fluid CR, to infer the presence of feelings of resentment in the patient (for instance, using the Dialectical operator to infer, from the patient's bold and defiant attitude, underlying feelings of an opposite nature). Arrived at this point, the therapist may be reminded of Adler's theory of the inferiority complex, if this is part of their crystallized knowledge. They may then *touch ground* with this theory – by recognizing a resemblance between its "marks" and those of the understanding that they have been independently weaving through their fluid CR. However, after knotting their CR process around this nail, the therapist will not simply abandon their fluid CR and apply the rest of the theory. Rather, they will continue to process the clinical material in such a way that may bring them to touch ground again with that bit of crystallized knowledge, or may lead them elsewhere entirely. Similarly, after touching ground with Ferro or Bollas, S started again from the clinical material, and not from those theories.

A fitting illustration of this dynamic is offered by Parsons (1992). Parsons describes the difficulties in his work with a psychotic patient who was presenting him with clinical material that was particularly difficult to understand. Parsons describes his sense of being "lost in this material" as stemming from the fact that at this stage, he could not find any "theoretical signposts" to help him "bring meaning into it" (p. 106), i.e., any *anchor points* to touch ground with. Because of the absence of any nails around which to knot his CR process, Parsons lacked the solid support of a frame, and thus felt "at sea with this material" (p. 107), an image that evokes the problem with excessive fluidity in CR and the need to occasionally run "ashore." And yet, over time, as Parsons persevered in his tentative fluid operations (some of which he shared with the patient, while others he kept to himself), finally a few "theoretical schemes" (p. 107) started to emerge in his mind. In particular, Parsons started to recognize in the material "a disordered jumble of references to different stages of development" (p. 107) and was thus able to knot his CR process around a few public theories that described these developmental stages. Parsons describes this dynamic

as *re-finding* the theory which he “already knew,” through his “personal struggle to understand this patient” (p. 108).

But the fact a particular frame is now more “consciously put to use” (p. 108) does not mean that Parsons is going to proceed to apply the theory *deductively*. If, on the one hand, it “might seem that all I have done is what a good supervisor could have helped me to do more quickly: to apply correctly the theory which I knew already” (p. 109), on the other hand, looking at the process in this way:

would carry a particular view of the nature of theory and its relation to clinical practice. It implies that theory is a set of propositions ... which can be applied from the general to the particular in a given instance. (p. 110)

The “particular view” that Parsons is referring to here is, indeed, the theory model. And it is in light of the reality of clinical experience that this view, as Parsons notes, reveals “its insufficiency” (p. 110). For as he experiences it, the process does not consist in “the mere application” of theory “as a received body of knowledge” (p. 105), but in the rediscovery of this knowledge “out of present need” (p. 110). If it is commonly assumed that “the practice of psychoanalysis” should be “derived from theory,” at the same time our clinical experience “seems to belie this”: in the work with patients, “we do not generally arrive at our interpretations by *using theory to deduce* what they ought to be” (p. 103, emphasis added). Rather, as he proposes, it is about *re-finding* theory through our own (fluid) CR process.

3.3 Context of justification

A way of conceptualizing the relation between operators and theory may then be to say that, in the process of CR, the operators constitute the instruments of *discovery*, while theory constitutes their context of *justification*. In fact, if public theory supports fluid CR by providing occasional points of reference, the purpose of touching ground with these can be seen as giving retrospective justification to the chain of operations that one has been putting together through their fluid CR. By “re-finding” bits of public theory, a therapist is

comforted that the formulation that they have been working towards “makes sense” in light of what they already know. But similarly, we have suggested that core theory would support fluid CR not so much by generating new insights, but by pre-selecting those that “make sense” in light of what one knows about the mind. Thus, theory in general may be said to act not as an agent of discovery, but as the realm of what has *already been discovered*.

As a source of *constraints* (core theory) or *anchor points* (public theory), theory would constitute the necessary counterpart to the operators. The operators, in fact, are the CR skills by which therapists are able to open up perspectives, gain new insights, and generate new “thoughts” (e.g., links, interpretations). However, at the same time, the possibilities of application of the operators are virtually limitless. And among these, some will be meaningful; others will be less so; and still others will be meaningless. How then to decide as to the meaningfulness of a CR process? Since the operators do not contain any criteria to evaluate chains of CR or tell a “good” from a “bad” operation, in making these judgements therapists must be relying on some other criteria. One of these criteria might be *theory*.

This distinction between discovery and justification, as it applies to everyday CR, can be appreciated also by considering the role of another kind of crystallized knowledge: i.e., the therapist’s “theory” of the patient. Our definition of crystallized knowledge, in fact, is broad enough to count as such not only the conclusions that have been reached *by other therapists* on cases comparable to the one at hand (public theories), but also those that have been reached *by the therapist him or herself*: i.e., their conceptualization of the case, as the knowledge they have accrued through the application of fluid CR across sessions. In this regard, we might say that analytic therapists understand the clinical material as little through theory as they do through their case conceptualization. For if the latter was the case, then, going back to the first session, where their knowledge of the patient was naught, in virtue of what would they have accrued the knowledge that they have now,

at the n^{th} session? Rather, analytic therapists use their case conceptualizations as they use their public theories: not as *instruments of discovery* (bases to draw clinical inferences), but as *contexts of justification* (frames).

To illustrate, let us say that, through their fluid CR about a series of scenarios, a therapist has arrived at the conclusion that their patient is "so-and-so." At the next session, the patient may submit a new scenario that strikes the therapist as being comparable to those they have already made sense of in function of the patient's "so-and-so-ness." If the therapist, in this case, were to apply deductively their general theory of the patient (case conceptualization) to this particular scenario, they would be engaging in crystallized CR. For they would be inserting in their CR a previously-formulated conclusion, instead of grappling with the particularities of the new scenario, which may or may not lead them to the same conclusion as before. In our analogy about the snippet of ready-made, reusable code, it does not matter whether the snippet has been developed by the programmer, or by someone else.

But the conceptual "acid test" that reasoning in this way would consist in a form of crystallized CR comes from the fact that there would be for the therapist *no possibility of discovering anything new*, other than the patient's so-and-so-ness. Whether in the form of theory, or of one's own case conceptualization, when crystallized knowledge is used as a base to draw inferences (instrument of discovery), the result is what Jung called the "'monotony' of interpretation" – namely, the fact of being time and again confronted in one's CR with the same conclusions, "without our being able to discover ... anything in them except what we know already and are sick and tired of knowing" (1952, para. 9). Parsons (1992), too, suggests that theory, when used in this way, can "close possibilities of fresh discovery ... leaving no space for hitherto unsuspected insights" (p. 110).

Instead, a case conceptualization lends itself, just as a public theory, to be used as a "frame" to be continuously re-found, i.e., as a context of justification. Let us take, for instance, S's overall hypothesis about the erotic (counter)-

transference. If S were to start the next supervision session by simply retrieving this conclusion from memory and applying it top-down to the new material that is laid down by T, then he would not be able to make any new discoveries. But if he kept instead this bit of crystallized knowledge somewhere in the back of his mind, and engaged in fluid CR, then he may occasionally be led to “knot” a new thought around this previous conclusion of his, just as he did with the conclusions by Ferro and Bollas. And in both cases, touching ground with bits of crystallized knowledge would work to make S feel *justified* that the new conclusions that he has reached “make sense,” in light of those that have been previously reached, either by himself or by others⁴.

It may be challenging to start each time from the new and particular elements of the clinical material, as opposed to the previously-formulated and general conclusions. But the ability of competent analytic therapists seems to consist precisely in positioning themselves at an *optimal distance* from crystallized knowledge, so as to bridge the gap with the clinical material through their fluid CR. Bion (1963) describes this as the ability of an analytic therapist “to retain the substance of his training and experience and yet achieve a naïf view of his work” which “allows him to discover for himself and in his own way the knowledge gained from his predecessors” (p. 86)⁵. Bion is thinking here about public theory, as the knowledge gained by one’s predecessors. But we may say that the knowledge to be rediscovered is not only that of others, but also one’s own. For Bion (1967/1992) considers that analytic therapists should also be without memory of “past sessions” (p. 381): “What is ‘known’ about the patient is of no further consequence ... If it is ‘known’ ... it is obsolete ... The only point of importance in any session is

⁴ In fact, touching ground with a theory means recognizing a resemblance between the “theory” that one is weaving and the public ones stored in memory. Parsons (1992) refers to his formulation as having “crystallized” towards the “rediscovery of a developmental model” (p. 109).

⁵ This ability can be understood also in terms of some of the “reflective operators” in our model, such as the Skeptical, Mimetic and Spontaneous operators (Polipo, Willemsen, & Kallai, 2024).

the unknown," i.e., what remains to be discovered (p. 381). But while Bion states this in rather radical terms, saying that a therapist should "aim at achieving a state of mind so that at every session he feels he has not seen the patient before" (p. 382), in our view, knowledge of the patient or of theory is inevitably brought over to the next session. The real issue is that this knowledge should be used not as a base for inferences, but as a frame for thinking.

4. Further research

In this chapter, we have focused on the role of theory in everyday CR. However, an important focus for future research are those more exceptional cases in which an analytic therapist is led to publish a new theory. If it is true that many theories have their origin in the clinical work with patients (Sandler, 1983), then the operators, as the knowledge structures of everyday CR, may play an important role in the process of theory-formation in psychoanalysis. The hypothesis may then be explored that theories are in fact *crystallized chains of operations arrived at through fluid CR*. For as Cattell also proposes, crystallized and fluid abilities have a relation of derivation, where the former are acquired "originally through the operation of fluid ability" (p. 178-179).

Another important focus for future research is how the subscription to a set of public theories actually influences the process of everyday CR (Hamilton, 1996). The expectation would be that analytic therapists from different schools of thought "will make different psychodynamic formulations" (Messer & Wolitzky, 2011, p. 73). And yet, the results of empirical studies, including ours, indicate that they work in surprisingly similar ways, agreeing "well among themselves and to a greater degree than would be expected if they were basing their judgements on theoretical stereotypes" (p. 97). This fact is coherent with our hypothesis that operators, and not theory, are the kind of knowledge through which most inferences are drawn in everyday CR. However, if theory still intervenes to support fluid CR as a frame, the question remains of the degree to which the fact of operating on

different frames actually impinges on the conclusions to which therapists are likely to arrive.

5. Implications for training

Traditionally, much emphasis is placed on the explicit teaching of public theories in the training of analytic therapists. In contrast, the learning of operators is a task that seems to be left to the trainee therapists themselves, who “pick them up” implicitly from their analysts or supervisors. However, in the future, ways may be explored to develop fluid abilities in an *explicit* way. In a recent study, for instance, we have shown how the use of the operators can be significantly developed through didactic teaching (Polipo, Willemsen, Hustinx, & Bazan, 2024). The aim, obviously, is not to turn the operators into a crystallized knowledge to be applied deductively, for that would defy their purpose; but to give trainers and trainees a common language to meta-communicate about the rules underlying their CR process. To use Freud’s (1913) analogy, one cannot become competent in the game of chess only by learning from books fixed sequences of moves, such as “the openings and the end-games” (p. 123). For what is key are the abilities that are needed in the “fluid” part of the game, where real *thinking* (as opposed to mere reproduction of crystallized sequences of moves) is required. Similarly, in psychoanalysis, the aim is to develop not only one’s knowledge of crystallized chains of operations, but one’s own capacity for thinking. This capacity is normally acquired by *practice*, but it could also be acquired by *training*. For if, on the one hand, these abilities are more difficult to teach, because the complexity of the game defies “systematic description,” on the other, this “gap in instruction” may “be filled by a diligent study of games fought by masters,” as Freud suggests (p. 123). The operators model, which was based on the study of competent analytic therapists at work, is aimed precisely at filling this gap.

6. Conclusions

It is our conviction that the “puzzle” (Parsons, 1992, p. 103) represented by the connection between theory and practice in psychoanalysis can only be solved by focusing on what lies *between* theory and practice. The private theory model started going in this direction by focusing on the implicit knowledge of analytic therapists (Sandler, 1983). However, at the same time, they continued to regard this knowledge as “theory,” only of a private kind; and in this way, maintained a dichotomy between “theory” and “practice,” insofar as they envisioned nothing between them. The question for the proponents of this model remains how “theory” is really used in “practice” (Canestri, 2006, 2012), and not whether what is being used in practice is “theory” or something else. The assumption under this model is that *anything that is not practice, must be theory*.

Our model instead calls into question the centrality of theory for everyday CR, whether public or private. We focus on the operators as a kind of knowledge that occupies a middle ground between theory and practice: i.e., a kind of knowledge that is used *in practice* but is not theory, and is not private either. In our model, theory informs practice only as a frame. Which is why the fact that practice is not “logically entailed” by theory (Fonagy, 2006, p. 72) is neither surprising nor problematic, since logically entailing practice was never what theory was *for*. What drives the process of CR in our model are certain fluid abilities mobilized by analytic therapists, which constitute the a priori structures through which they bring forth meaning. These structures are neither “over-specified” as public theories, nor “under-specified” as core assumptions, but form a paradoxical *specified core*.

We have started this chapter with the caveat that focusing on the CR of therapists requires a few abstractions. To get a fuller picture of the complexity of the analytic process, then, the first thing to do would be to bring back in the role of the patient, who is a “weaver” as much as the therapist. But the addition of the patient will not be without consequence, for the patient brings with them their *psyche*,

as that which both the therapist and the patient are trying to understand, and of which what we have been calling the "clinical material" is only a manifestation. Jung (1928) writes that it is precisely because we are "touching the miracle of the living soul," that we are forced to set aside our "theories" (p. 361). In the analytic process, the therapist is sitting with theory at its back, as it were; but in front of them is the living psychic reality. And the therapist will have to "touch ground" with both, like a swimmer in the pool, now one edge and now the other. For this living soul may be regarded perhaps as the *ultimate context of justification*. The question, in fact, is not only "*Is this formulation I have arrived to consistent with my crystallized knowledge?*" but also, "*How is the living soul of my patient (and my own) responding to it?*". Does it produce, for instance, a sense of insight? Or, even in the absence of insight, does it produce new clinical material (e.g., an intensifying of associations, a resurfacing of memories)? And it is because we are dealing here with an ever-forming reality, that there is a need for a fluid element. For if our object was dead instead, theory would probably suffice. But that life is the damnation of psychoanalysis was already noted by Bion (1962), who considered it the "peculiarity of psychoanalytic investigation" that its objects are not inanimate machines, but are "suffused with the characteristics of life" (p. 26).

Chapter 4:

The origins of clinical reasoning

Historicizing the conceptual and reflective skills of analytic therapists

In everyday clinical reasoning, analytic therapists chain a series of “mental acts,” such as the tracing of an element back to its origin, the opposition of an element to another, or the interpretation of a literal element in a figurative sense. In this chapter, we suggest that these forms of reasoning can be historicized, by showing not only that they predate psychoanalysis, but that they go back to the very origins of Western civilization. Two hypotheses are offered to explain the permanence of these forms of reasoning across history. The first is that they are handed down through the Western canon by cultural transmission. The second is that they are characteristically human ways of assigning meaning that are inherited, rather than acquired. It is proposed that these two hypotheses are not mutually exclusive, but find a synthesis in the idea of a set of innate but trainable predispositions of thought.

The origins of clinical reasoning

Historicizing the conceptual and reflective skills of analytic therapists

Wanting to “historicize psychoanalysis” can indicate two very different intellectual projects. One is to *contextualize* psychoanalysis in a particular historical period, for instance by pointing out parallels between Freud’s discoveries and the cultural atmosphere of fin-de-siècle Vienna (Schorske, 1979). The other is to document the continuity between psychoanalysis and the Western canon at large, for instance by pointing out parallels between Freud’s discoveries and those of precursors who lived thousands of years before, many of whom we have no evidence that Freud ever read or even knew about (Ellenberger, 1970/1994). Although Forrester (1997) puts Schorske and Ellenberger in the same category, by calling both “contextualists,” their approaches to historicization actually have almost opposite implications. While the former approach suggests that psychoanalytic discoveries are contingent upon certain historical conditions, the latter “liberates” them from such conditions. By tracing certain aspects of psychoanalysis back to the very origins of the Western canon, Ellenberger historicizes them, but at the same time reveals them to be, paradoxically, *trans*-historical.

In this chapter, we wish to historicize psychoanalysis “à la Ellenberger” (Forrester, 1997, p. 196), i.e., to reflect on its trans-historical dimension, as opposed to contextualizing it. However, another important distinction to be made concerns *what aspect* of psychoanalysis is being historicized. Psychoanalysis, in fact, is a complex whole in which, notably, “theory” exists alongside “practice.” One can then do *a history of psychoanalytic ideas*, as Ellenberger (1970/1994) does, for instance, when he identifies the precursors of

Freud's concept of "sublimation" (p. 274) or of his "model of the ego-id-superego" (p. 147). Or one can write instead a *history of psychoanalytic practice*, as Ellenberger does when he identifies the precursors of the therapeutic techniques or methods of "healing through confession" (p. 22) or "materialization of the disease" (p. 12).

Yet, a third aspect of psychoanalysis which can also be historicized, and which coincides, strictly speaking, with neither ideas (theories, concepts) nor practice (techniques, methods), is the psychoanalytic *way of thinking*. This kind of historicization, too, is found in Ellenberger. An example are the parallels between Freud and Marx. These two authors operated in such different fields, both at the level of theory and practice, "in the form of revolutionary activity for Marx, or of psychotherapy for Freud" (p. 239). And yet, similarities can be documented "in their *ways of thinking*": "there is no doubt that a common *pattern of thought* existed that Marx applied to economic and social facts and Freud to the psychology of the individual" (p. 239-240, emphasis added)⁶.

In this chapter, we wish to historicize these psychoanalytic "ways of thinking" (or "patterns of thought") as they emerge, in particular, in the everyday clinical reasoning by analytic therapists. To illustrate, let us consider the following vignette, taken from a real analytic session:

A patient has recently decided to adopt a blind kitten and is talking about her long-lasting love for animals. The therapist encourages the patient to describe more specifically what this love is about. The patient thus evokes a few anecdotes, which in turn trigger more memories to resurface. The therapist helps the patient to follow these memories back to her very first experiences with animals. By analyzing all of these episodes, the therapist notices an emerging theme: namely, the fact that since the patient was a child, she used to stand as a protector for animals who appeared "defenseless." The therapist suggests that this

⁶ Also Ginzburg (1980) or Forrester (1996) historicized the psychoanalytic ways of thinking, as opposed to any specific idea or practice.

defenseless appearance of the animals may say something about the patient herself, and emphasizes the contrast between the strong appearance that the patient projects in life and the defenseless appearance of the animals. The therapist concludes that the patient's relation to the animals may represent in some way the relation to her own defenseless aspects.

As this vignette shows, the process of everyday clinical reasoning by analytic therapists does not consist primarily in the application of specific psychoanalytic theories or concepts, but in the chaining of a series of "mental acts." These include *tracing* an element of the clinical material back to its origins; *extracting* a theme from seemingly disparate elements; *marking* the opposition between an element and another – and so on. Through these kinds of mental acts, analytic therapists develop an understanding of the clinical material which may underpin their offering of interpretations. And to the extent that certain classes of mental acts occur repeatedly in analytic sessions, then they can be said to constitute characteristic "ways of thinking" or "patterns of thought" that analytic therapists engage in. In this chapter, we wish to show how these patterns, too, can be historicized, in a similar way in which specific ideas or practices can.

1. A brief history of the operators

Recently, we have developed a model that describes the "ways of thinking" or "patterns of thought" used by analytic therapists in everyday clinical reasoning (Polipo, Willemsen, & Kallai, 2024). The model was based on an exploratory study on the clinical reasoning process by competent analytic therapists from different schools of thought (e.g., Freudian, Jungian, Lacanian). The main finding of this study was that, despite their differences at the level of theory, analytic therapists seemed to implicitly carry out a common set of mental acts when thinking through the clinical material. By spelling out these acts and grouping them into "families" (classes of mental acts revolving around the same core idea), 12 ways of thinking or patterns of thought were identified.

We call them the “operators.” Some operators are prevalently used for *conceptual* purposes, that is, to mentally manipulate the clinical material (e.g., select elements, make links, formulate interpretations). While others are prevalently used for *reflective* purposes, that is, to adopt and maintain a general position or posture. Table 3 (from Chapter 1) offers a brief description of each operator. The operators model allows to break down the process of clinical reasoning into its constituent mental acts. For instance, if we refer back to the clinical vignette, the model can be used to classify the therapist’s opposition between the patient’s “strength” to the animals’ “defenseless” as a conceptual mental act guided by the Dialectical operator, or her invitation to the patient to relate more specific examples as a reflective act guided by the Mimetic operator.

After developing the operators model, what struck us in retrospect is that none of these modes of reasoning, taken separately, seems to be the prerogative of psychoanalysis. Let us take, for instance, the Symbolic operator. In the example above, the use of this operator was illustrated by the therapist’s mental act of taking a concrete and external element (the animals) as the representation of an internal and abstract one which, together with the Self-reflective operator, was interpreted as the patient’s *own* “defenseless.” However, this particular way of thinking is far from being the exclusive domain of psychoanalysis. A literary critic, for instance, may use the same operator to interpret a concrete object in a story as the “objective correlative” of a character’s emotional state (Eliot, 1919). Similarly, it will be readily seen how the Investigative operator, for instance, is used also by actual detectives when searching a crime scene for “clues” (cf. Ginzburg, 1980); the Genealogical operator by linguists when tracing a word back to its “root meaning” (Hoffman, 2003, p. 27); the Mimetic operator by translators when striving to remain as close as possible to the meaning originally intended by an author – and so on.

The operators model thus leads one to the puzzling conclusion that psychoanalytic clinical reasoning may consist of a particular *collection* of reasoning styles, none of which

can be said to be, in itself, uniquely “psychoanalytic” in any sense. But a similar conclusion had been reached before us. Already in 1974, Ramzy suggested that “psychoanalysis as a clinical method of investigation has *no specific rules of inference of its own*” (p, 548, emphasis added). Analytic therapists, for Ramzy, “bring to the analytic situation” a series of abilities to “make sense” of what they observe; and yet, these abilities “*are not analytic discoveries, neither are they a monopoly of psychoanalysis. They are general principles of reasoning* or basic knowledge accepted by scientists and by ordinary informed people at large” (p. 545, emphasis added).

One method to show that the operators are not the “monopoly” of psychoanalysis is to document their use in other professions, as we have just suggested. However, another method is precisely to *historicize* them, that is, to show their use at a time that predates psychoanalysis itself. This method, which Ramzy already hints at by tracing some of the “psychoanalytic” rules of inference back to Aristotle, is the one that we wish to undertake more systematically in this chapter. Using the operators model as a historical “grid,” we propose a sketch of what a brief history of the operators may look like. To do so, following Ellenberger (1970/1994), we are going to show the trans-historical dimension of the operators through an itinerary in three stations. The first station illustrates the use of each operator with a clinical vignette involving analytic therapists from different schools of thought (e.g., Freudian, Jungian, Lacanian). The second station traces the operator back to the history of modern thought (broadly defined as going from Descartes to present days). The third station traces the use of the operator further back to antiquity and, in some cases, to the very origins of Western civilization.

1.1 Dialectical operator

Vignette: A patient complains about her flat mate because she does not respect the common rules. The patient presents herself as the “opposite” of that (that is, particularly mindful of other people’s spaces). However, a series of anecdotes indicate to the therapist that the “opposite” of what

the patient “rationally says about herself” might be true. This vignette illustrates the therapist’s use of the Dialectical operator as the ability to *think in opposites*. With Jung, this ability may also be described as thinking “in paradoxes” (1960a, para. 868) or “in antinomies” (1969, para. 1413).

Modernity: Ellenberger (1970/1994) notes that a tendency to think in opposites is characteristic of both Freud and Jung, and traces it back to the philosophy of nature. A “basic principle” of this philosophical school, he notes, was “the ‘law of polarities’” (p. 203). This law pervaded the philosophy of Schelling, who saw “polarities within nature such as day and night, force and matter, gravity and light” or “male and female” (p. 203). Schelling and his disciples “sought polarities everywhere” (p. 203). This “typically Romantic way of thinking” (p. 204, emphasis added) was later incorporated into Romantic medicine. An example of its application to clinical reasoning comes from Neumann [1814-1884], a psychiatrist who considered the “perpetual washing of one’s body” or its opposite, namely, “absolute uncleanness,” to be “pathologically equivalent” (p. 214).

Antiquity: Jones (1953) notes that Freud’s tendency to thinking in opposites is not new, but “has existed *throughout the ages*” (p. 378, emphasis added). Hegel, whose name is typically associated to dialectics, openly stated: “there is no proposition of Heraclitus which I have not adopted in my Logic” (1830/1955, p. 279). But besides Heraclitus, as the obvious reference, dialectical thinking can be traced back to Empedocles, whose theories were underlaid by pairs of opposites (love/strife, fire/water), just as those of Hippocratic medicine which he directly influenced (hot/cold, dry/wet; Lloyd, 1983). Finally, the Dialectical operator can be traced back to religious thinking. In the Gospels, one finds not only general oppositions (e.g., God/Mammon, God/Caesar; Mark 12:17; Matthew 6:24) but also paradoxes and “Heraclitean” enantiodromias: “when I am weak, then I am strong” (2 Corinthians 12:10), “The last shall be first” (Matthew 20:16).

1.2 Symbolic operator

Vignette: A patient and her therapist are taking a new appointment, when the patient comments that next week is going to be "Groundhog Day – my favorite holiday." The therapist does not make much of this statement, thinking it end-of-session small talk. However, during supervision, he is helped to realize that this comment may have had also an ulterior meaning. Since the patient is going through a long period of low mood, and has been wondering about when she will be better again, then the groundhog's announcement of good weather may be a symbolic representation of the end of this mental "winter." This vignette illustrates the ability that Jung (1921) called "symbolic thinking" (para. 171).

Modernity: The emphasis on "symbols" is also fundamentally Romantic (Ellenberger, 1970/1994, p. 205). Romantics believed that the "nature's 'fundament' (*Grund*)" is "at the same time the fundament" of our "soul" (p. 200). Ellenberger cites several authors who anticipated the analytic approach to the interpretation of symbols, such as Sherner [1825–1889], who interpreted symbols with reference to body parts, including "sex organs" (e.g., high towers as "male organs," p. 305), in a way that echoes "Freudian symbols" (p. 506), or von Schubert [1780–1860], who suggested that in dreams human beings think in a "picture language (*Traumbildsprache*)" (p. 205), a notion that echoes Jung's thesis on the two kinds of thinking (see 1952a, para. 4).

Antiquity: Thinking in terms of a "correspondence" between the macrocosm of nature and the microcosm of the human body/mind goes back a long way. The idea of the human as a model for the universe is found in Da Vinci's treatises of anatomy, but goes back to Ptolemy and Plato. The Emerald Tablet, an ancient Hermetic text, famously reads: "That which is above is like to that which is below, and that which is below is like to that which is above" (Davis, 1926, p. 863). The symbolic way of thinking is also central to Jesus' parables (e.g., "The Kingdom of Heaven is like a grain of mustard seed"; Matthew 13:31) and can be traced back to the dream interpreters of antiquity (Ekstein, 1975, p. 248).

To the Symbolic operator are owed the “wordplays” that are characteristic of analytic interpretations, and which can also be traced back to ancient roots (cf., for instance, Artemidorus’ interpretation of Alexander’s dream in Stok, 2011, p. 66).

1.3 Formal operator⁷

Vignette: A patient starts therapy wondering whether he wants to be in a relationship with his girlfriend or not. During therapy, similar questions emerge about his sexual orientation and career: what does he want, and have his choices really been his? After a year in therapy, he starts wondering about whether he should continue the analysis or not. The therapist notices that the way he raises the issue is consistent with the general pattern: he wonders whether the choice to come to therapy had really been his, as his therapist was recommended by a friend. The extraction of a pattern from several instances is a classic example of the use of the Formal operator: “The cast may change, the situations may vary, but the plots endure with structural tenacity” (Teller & Dahl, 1981, p. 397). Or, said otherwise, the *content* may change and vary, but a certain “form” remains the same.

Modernity: A history of the Formal operator would be, in a sense, a history of all abstract or logical thought as such, since concepts are abstractions from particular instances. However, a notable example of the Formal operator is Kant’s distinction between certain a priori (formal) categories, on the one hand, and the content of experience, on the other. The use of the Formal operator for clinical reasoning can also be traced back to a time that predates psychoanalysis. As Ellenberger (1970/1994) notes, it “is noteworthy that” Carus [1789–1869], for instance, “attempted to interpret dreams according to their form rather than to their content” (p. 208).

⁷ The Symbolic and Formal operators combine in the use of *analogy*, which implies the use of *metaphor* but also the exploration of *parallels* (i.e., a perception “of the similarity in dissimilars”; Driscoll, 2012, p. 28). The use of analogy, as a separate thinking style, can also be historicized. Ellenberger (1970) saw the use of analogy as “the magic wand of Romantic philosophy” (p. 203).

Antiquity: A history of the Formal operator in antiquity cannot fail to mention Plato's *eida*, as universal forms that subsume their particulars. But in the Platonic dialogues, too, this operator is illustrated by the "implicit act of conceptual 'collection'" by which a character typically "designates the class or genus" under which a series of phenomena can be grouped "with a substantivized form" (Halliwell, 2021, p. 30). Just like the characters in Platonic dialogues, analysts also constantly create new substantives: see, for instance, Bion's "'existingness'" (1965, p. 112) or "'groupishness'" (p. 150). The Formal operator can be also be traced back to Aristotle's formal logic, which deals with the forms of reasoning "irrespective of its content," as well as his metaphysics, which conceives the individual in terms of "matter and form" (Ramzy, 1965, p. 120). Finally, the root meaning of the term *logos* brings one to the idea of "'a composition', in the literal sense of 'an entity which has been created by the gathering of discrete elements'" (e.g., bundle of wood), as the prehistorical equivalent of the mental act by which a pattern is extracted from several instances (Hoffman, 2003, p. 27).

1.4 Investigative operator

Vignette: During the intake session, a therapist notices that the patient often starts his sentences with "to be honest...". At the end of the session, the therapist intervenes by suggesting that, if they are going to start a therapy together, they will have to talk about honesty at some point. The therapist's act of "hypostatizing" a linguistic expression for its recurrence indicates the use of the Formal operator. However, the additional inference that *insofar as* the patient presents himself as a frank speaker *then* he may be hiding something, is an example of the Investigative operator. What could have been considered a simple *façon de parler* was interpreted here as a "clue" to an underlying, hidden reality.

Modernity: Ellenberger (1970/1994) notes that an "important source of Freudian thinking" is "the 'unmasking' [or 'uncovering'] trend'" that was characteristic of the 1880s and 1980s, and which consisted in "the systematic search for

deception and self-deception and the uncovering of underlying truth," known in France under the name of "*démystification*" (p. 537). Ellenberger sees this trend to be continuing in the philosophies of Nietzsche and Marx who, just like Freud, were involved in the analysis of the "processes by which people deceive both themselves and the others to their own advantage" (p. 238). Ricoeur famously labelled "hermeneutics of suspicion" (1965) this pattern of thought that was common to Freud, Marx, and Nietzsche. Nietzsche's question is the same as that posed by the practicing analytic therapist: "With all that which a person allows to appear, one may ask: what is it meant to *hide*?" (p. 273).

Antiquity: Ginzburg (1980) gives a detailed history of clue-based reasoning from psychoanalysis back to modernity (Giovanni Morelli and Sherlock Holmes), and then further back to antiquity, where he sees it illustrated in Hippocratic medicine, the ancient craft of haruspices, or the search for animal traces by prehistoric hunters. But an ancient history of this operator may include also the Christian "discernment of spirits," as the ability to tell deceptive spirits from authentic ones: "believe not every spirit, but try the spirits [*probate spiritus*] whether they are of God" (1 John, 4:1).

1.5 Genealogical operator

Vignette: A patient is talking in therapy about how he gets annoyed by the smallest things. When his wife opens the fridge and the alarm is left beeping for too long, or a waiter lays the beer on the table with the label not facing him ("as you should"), he gets upset. The therapist makes a link with the patient's relation with his father who, as emerged in previous sessions, used to beat him whenever he committed the smallest mistakes. Once, although the patient closed the fridge with utmost care, the father still yelled at him, "don't slam the door!". By exploring this dynamic further back in time, the patient remembers that the "favorite weapon" with which the father used to beat him was a "stick" for gardening. A genealogy of this stick reveals it to be the same with which the patient's father used to be beaten by his own father.

Modernity: Ellenberger (1970/1994) notes that another feature of the Romantic way of thinking was its concern with “primordial phenomena (*Urphanomene*)” (p. 203). An example is Goethe’s notion of *Urpilanze*, a primordial plant from which all other plants would have derived. But already with the Enlightenment, a “prevalent preoccupation was the search for the ‘primitive world’, which was supposed to have existed at the origin of mankind” (p. 198). Bachofen [1815–1887], for instance, studied this forgotten world, whose traces were supposed to be still traceable in the present. But more generally, for a period in Western history, it seems as if every intellectual was writing the “origins” of something⁸: be it Darwin’s *Origins of the Species*, Engels’ *Origins of the Family*, Nietzsche’s *Birth of Tragedy* or his *Genealogy of Morality*. This trend continued with Freud, Jung, and their successors, an example being Neumann’s *Origins and History of Consciousness*, in which Bachofen’s work is often cited.

Antiquity: The genealogical way of thinking can be traced back to the *Genesis*, and that “in the beginning was...” (John 1:1) which returns also in Goethe’s *Faust*. It is found also in Plato’s philosophical “origin myths,” such as the myth of the Demiurge or that of the Hermaphrodite (see Tucker, 2020), or Hesiod’s *Theogony*, which describes the genealogy of the Greek gods. Finally, it goes back to the pre-Socratic search for the *arché* (“origin”), as the first principle to which everything else can be traced (e.g., Empedocles’ *rizomata* [“roots”]), and to every cosmogonic myth of ancient cultures.

1.6 Dynamic operator

Vignette: A patient has been exploring in therapy her difficulties in expressing anger. One day, at the beginning of a session, she reports having had a “weird dream.” She was buying a sandwich, which turned out to be “the best thing I have ever tasted.” But as she left it on a table to go to the toilet, she came back to find that a friend had taken a bite.

⁸ The title of this chapter deliberately suggests that the historicization of the reasoning skills of analytic therapists can be seen as the application of the Genealogical operator to each of the operators themselves.

The patient, infuriated, repeatedly punched her friend in the face with such violence that she woke up from the dream scared of herself. The therapist commented that the dream let out the same anger that the patient had trouble expressing in day-to-day life. The Dynamic operator refers to the tendency to think in terms of *forces*. In this case, for instance, the therapist assumed that a certain "force" (the patient's anger), not finding an outlet in her day-to-day life, would accumulate and then burst out, as it were, in the dream.

Modernity: Dynamic reasoning can be traced back to Schiller, who "thinks in terms of energy" (Jung, 1928, para. 26, footnote 26); to Schopenhauer, whose will has "the dynamic character of blind, driving forces" that are "unknown" to the subject (Ellenberger, 1970/1994, p. 208); or to Nietzsche, who came "to consider the human mind as a system of drives," described their "vicissitudes" and introduced the idea that mental energy can be "accumulated" or "transferred from one instinct to another" (p. 273). But dynamic reasoning is also found in Marx who, just like Freud, lays emphasis "on the economic aspect of man" (p. 240)⁹. The "financial comparisons" that are characteristic of Dynamic reasoning (e.g., the psychoanalytic *investment* of libido) can be traced back to Beard, who in 1869 described neurasthenia in terms of "budget of nervous forces" (p. 242).

Antiquity: Nietzsche's idea that energy "can remain potential or be actualized" (p. 273) is modeled on Aristotelian categories, as is Jung's (1928) distinction between "force" (*dynamis*) and "energy" (*energeia*). Hippocratic doctors also used to think in terms of *dynameis* (Lloyd, 1983). Even before Greek philosophy, dynamic thinking is found in traditional cultures. Ellenberger (1970/1994) traces Mesmer's animal magnetism back to the prehistoric notion of "a universal, impersonal energy that can be stored in persons, objects, or

⁹ The Investigative and Dynamic operators are combined by analytic therapists in inferring that the motive that a patient purports to be driving their behavior may not be the "real" one. Similarly, "one practical rule of Marxist analysis is: 'Behind that which people say ... discover what they are by analyzing what they do'" (Ellenberger, 1970/1994, p. 238).

places, and can be detected only through its objective effects" (p. 62). The same link is proposed by Jung (1918, para. 21).

1.7 Skeptical operator

Vignette: At the fifth session, a patient protests that the therapist has not yet given her a precise diagnosis and seems to be exploring areas that are not "relevant" to her problems. Since the issue has already emerged more than once, the therapist feels it important to address it explicitly this time: "Imagine you have lost a key. If you knew where you lost it, you would just go there and pick it up; or, if it was not there, you would go look in the usual places where it might be. But imagine that that did not work either. What then? You would be forced to look everywhere, centimeter per centimeter. It's the same in therapy. If we knew where your problems come from, we would go directly there. But we don't. I don't know it, because we have just started to know each other. And you don't either, for if you did, you wouldn't be here. Since neither of us knows, then we have to start looking around."¹⁰ The importance of an admission of ignorance as a premise for any genuine inquiry (*skepsis*) has been voiced by many psychoanalysts: from Bion's "not knowing" to Lacan's "*méfiez-vous de comprendre*" or, more recently, Nobus and Quinn's (2005) "knowing nothing, staying stupid."

Modernity: Writing a history of this operator would be writing a history of skepticism, going back to modern authors such as Descartes, Montaigne, Hume or Kant, who used doubt as a method of inquiry and discussed the limits of human knowledge (Lagerlund, 2020), and then further to authors like Schelling who described the "Absolute" as unknowable.

Antiquity: The Skeptical operator can be traced back to Socrates's "knowing not to know" or to the pre-Socratics Xenophanes and Democritus. In reviewing Nobus and Quinn's (2005) book, Covitz (2012) notes that their "thinking ... intersects Sextus Empiricus," and wonders whether their

¹⁰ This intervention relies also on the Symbolic operator. This operator, in fact, includes not only the mental act of metaphorizing elements of the clinical material (e.g., the Groundhog), but also offering new metaphors.

"reading adds an iota to the writings of the Pyrrhonian Greek Skeptics" (p. 310). But the core idea of "openness" that characterizes the Skeptical operator applies not only to epistemology, but also to ontology. For instance, one finds this way of thinking in the ancient javelin argument for the *in*-finity of the universe, or in Anaximander's *apeiron* as the "un-bounded" or "un-limited." A variant of the javelin problem emerges in Freud's (1937) discussion of whether analysis is *in*-terminable, for even when a certain "closure" has been reached, there could always be *another session*.

1.8 Emancipatory operator

Vignette: A patient complains about his wife, who thinks herself a "queen" and expects other people to lay their cloaks under her feet. After an argument, the wife told him to "go sleep with the dog." The patient went to sleep on the couch, but she insisted: "No, I said with the dog, outside." The therapist comments: "Yes, but there can be no queen... without a servant." The therapist's interpretation of the events sought to "liberate" the patient by pointing out the ways in which he was contributing to his own un-freedom. The Emancipatory operator describes what Zilboorg (1952) also calls the "Freudian libertarian principle": that is, a way to act clinically that is aimed at giving the patient a sense of having their life in their "own hands" (p. 491).

Modernity: The spirit of Enlightenment was synthesized by Kant in the reflective act of stepping out of one's "self-caused minority" (cf. Ellenberger, 1970/1994, p. 195). This way of thinking was applied to clinical reasoning by Janet, for instance, who insisted that hypnotized patients should overcome their "*besoin de direction*" (p. 154). But emancipatory reasoning is found also in Hegel's dialectic of master/servant (which, like the clinical inference about the queen/servant, also makes use of the Dialectical operator),

or in Marx's appeal to the proletarians to acquire class consciousness and overturn their condition of subjugation¹¹.

Antiquity: Ekstein (1975) reports an anecdote concerning Xenophon that illustrates the use of this operator in antiquity. Xenophon is laying in his tent at night, unable to catch sleep, for the enemy is threatening to attack. He wakes up from a dream, thinking: "Why am I lying here ... What am I waiting for? A general to undertake the work?" (p. 249). He thus gathers the captains, gets himself elected, and leads the army out of danger. As Ekstein notes, interpreting the dream as a call to action, Xenophon turned "the *passive* hope that father or Zeus might come and save him" into "*activity*" (p. 249-251, emphasis added). The Emancipatory operator can also be traced back to Plato's Allegory of the Cave, which shows human beings to be wearing their self-chosen shackles, or to Hippocratic medicine, in which the language used to express the cause of an illness (*aitia*) was very close to that used to express human responsibility (Lloyd, 1983). These two registers (cause and personal responsibility) are also close, for instance, in Freud's notion of "secondary gain."

1.9 Enkratic operator

Vignette: A patient has started seeing a girl, who has told him that she was sexually assaulted many years ago. Since hearing this, the patient cannot stop thinking about it, and has suggested to the girl that they go to the police together. The therapist, however, invites the patient to consider that doing so may be a way to *act out* his anxieties (as the girl does not seem eager to relive this memory), and invites him instead to reflect on what upset him so much in learning this fact about the girl's past. Psychoanalysis invites to restrain the unloading or, in Bion's terms, "evacuation" of emotionally-charged states of mind through action, in order to create a delay in which words or thoughts can intervene.

¹¹ The Emancipatory and Dynamic operators are combined by analytic therapists when pointing out, to someone who believes to be acting freely, that they are being driven by unconscious motive forces. This combination is found in Freud as well as in Marx (Ellenberger, 1970/1994, p. 240).

Modernity: The problem of restraint, which is the problem of the relation between reason and the passions, is central to all moral philosophy. In Kant's ethics, a rational agent should go against their "natural inclinations" to realize their duty. The problem of restraint appears also in authors like Rousseau, who are more ambivalent and occasionally side with natural inclinations over duty (Simonsen, 1961). In the mold of this tradition, Freud's *Civilization and its Discontents* (1930) reflects a problematization of the repression of instincts which Ellenberger (1970/1994) traces back to Diderot's notion that "civilization demands of man that he renounce the gratification of his instincts" (p. 277).

Antiquity: The Enkratic operator, which owes its name to the Socratic and Aristotelian *enkrateia* ("dominion over oneself"), can be linked also to the stoic notion of *hegemonikon*. The stoic sage embodies the ideal of someone who never simply *reacts*, not even when in unspeakable pain, as in the Bull of Phalaris. However, more than imposing self-restraint per se, what the Enkratic operator invites is a reflection on one's *intentions*, to make sure that, if one has to act, then one is not simply being urged by their passions. A fitting, albeit gruesome illustration of this kind of reflexivity is found in Galen. In his treatise on the mastery of passions, Galen cites "his father, who, when he was angry with his servants, did not kick them, but waited until his anger subsided before having them beaten" (Ellenberger, 1970/1994, p. 42). Besides abstaining "from the crudest kind of emotional outburst," Galen suggests finding "a mentor" with whom to engage "in an unceasing effort to control one's passions" (p. 43), just like a patient or trainee therapist work on their acting out with the help of a therapist or supervisor.

1.10 Mimetic operator

Vignette: A patient gets irritated by her mother's displays of affection (e.g., "I am proud of you"). The therapist invites the patient to explore what it is exactly that goes on in her mind when she hears that. The therapist and patient thus try to put words to her experience (e.g., "Is it because

you think your mother does not mean it?" "Not really"). At a certain point, they arrive at the idea that what bothers the patient is that her mother says she is proud, but at the same time does not really know about her day-to-day struggles. "It is as if she had not *gained the right* to be proud of you," suggests the therapist. "Yea, that hits the nail on the head."

Modernity: Mimetic thinking, as the ability to approximate the particular, specific, or unique features of the object of one's thought, can be traced back to the Romantic "*Einfühlung*," which refers to the act of "feeling into or empathy," a "desire to penetrate" the depths of a certain reality (Ellenberger, 1970/1994, p. 200). The Romantics applied *Einfühlung* to the understanding of nature, but also other historical epochs, foreign cultures, as well as fellow human beings (p. 202). They described it as the ability to "attune" oneself at will "in the way one tunes an instrument," or to "live equally in several places and in several people" (p. 201). We suggested before that this ability would be relevant also to the work of translators. And in fact, the Romantics' capacity for *Einfühlung* is also indicated by "the astonishing perfection of their translations of foreign authors" (p. 201).

Antiquity: In the Platonic dialogues, Socrates's request to define the object of discussion (*ti esti?*) typically leads to an attempt to approximate a certain idea with one's words, moving from one descriptor to the other, in search of the one that "fits" best. This dialogical approximation, just like the one in the clinical vignette, is an example of mimetic thinking. In fact, if the core idea of the Mimetic operator is a "portrait," i.e., a re-presentation that strives to render the essence of a model, in Plato philosophers are often compared to painters. Just as painters fix their "mental gaze" on "an externally available model ... 'the real object'", so philosophers do with their *paradeigma*: in both cases, it is about "modelling" oneself around the object or adhering to it (Halliwell, 2021, p. 39-44). The criterion is one of *likeness*: the more "faithful" a picture is to its object, the more truthful¹².

¹² The Mimetic and Skeptical operators are combined in the idea that the "aspiration" to capture the essential aspects of an object is bound to be

1.11 Spontaneous operator

Vignette: A patient tells that two songs have popped into her head in between sessions. The first is "Where's Your Mama Gone?" and the second one is "Seasons in the sun" – a song about a dying man who says goodbye to his loved ones and idealizes the time they spent together. The therapist interprets them in relation to the abandonment by the patient's mother when she was 2 years old. The Genealogical operator (bringing an element back to its origin) was combined with the Spontaneous operator (giving importance to what springs spontaneously to mind). In this example, the latter operator was applied to contents appearing in between sessions, but it can also be applied to the patients' associations during sessions. The same operator is used by therapists in their own reverie or even suspended attention.

Modernity: According to Zilboorg (1952), the use made in psychoanalysis of "spontaneous" (p. 489) mental activities "ought to be viewed as a maturation of a developmental root in the history of psychology. This root, this trend, this embryonal tendency – call it whatever you wish – in the history of psychology was caught and made fertile by Freud's intuition" (p. 494). In particular, Zilboorg traces this way of thinking back to Locke, Mill, and other authors in the school of associationism, and analyzes an article from 1879 which suggests that Francis Galton not only "discovered the method of free associations" before Freud, "but he worked with it for a while (on himself only), and quite effectively" (p. 494).

Antiquity: The use of free associations has been traced back to *The Clouds* by Aristophanes (Halpern, 1963). In this satirical play, which, as Ekstein (1975) suggests, may nonetheless give us a "picture of the therapeutic methods in Athens" (p. 252), Socrates has a "patient" sit on a couch. Then, he asks him to "excogitate" about his own "affairs" with

asymptotically deferred: as Plato suggests, "the notion of maximum replicatory fidelity involves a reduction ad absurdum ('two Cratyluses' rather than Cratylus and his image)" (Halliwell, 2021, p. 35-36). The Symbolic and Mimetic operators are also combined whenever metaphors are used to express "a thing's essence" (Driscoll, 2012, p. 27).

an instruction that echoes Freud's golden rule: "Now then survey in every way, with airy judgment sharp and quick: / Wrapping thoughts around you thick: / And if so be in one you stick / Never stop to toil and bother, / Lightly, lightly, lightly leap, / To another, to another; Far away be balmy sleep" (p. 253). Ekstein's anecdote concerning Xenophon also illustrates the use of spontaneous thinking, for the "method of dream interpretation was even then to see what comes to mind by way of the dream's manifest content" (p. 249).

1.12 Self-reflective operator

Vignette: A patient brings to therapy a recurrent dream in which he wants to introduce to his family a girl for whom he has unrequited love in waking life. The dream typically depicts a festive situation in which the girl, to the dreamer's frustration, stands alone in a corner and does not socialize. At a certain moment, she always has to leave, despite the dreamer's protest: "But you have just arrived!". In therapy, the patient tries to work out what this dream could mean for the relation he has to the girl in waking life. But the therapist invites him to consider that both the girl and the family may not refer to the actual people, but to parts of *himself* (Self-reflective operator), which he would struggle to "introduce to" (i.e., integrate with) each other (Symbolic operator).

Modernity: Feuerbach (1841/1881) suggested that God is a projection by human beings of their *own* positive qualities. But the Self-reflective operator was used by him to understand all of human nature, including, for instance, our relation to animals (p. 7). For Feuerbach, ultimately, we "know the man by the object, by his conception of what is external to himself" (p. 5), similarly to how, in the vignette used for the Dialectical operator, the patient's qualities were inferred by the therapist from how she had been describing her flat mate. "Man first of all sees his nature as if *out of* himself, before he finds it in himself" (p. 13). Many more examples of this operator are found in modern philosophy, such as Nietzsche's idea that every great philosophy is a "confession" of its author and an unconscious autobiography.

Antiquity: Feuerbach directly cites the ancient Greek "*gnothi sauton*" (know thyself; p. 5). But the Self-reflective operator can be traced also to Christianity: for instance, Jesus' invitation to focus on the beam in one's *own* eye (Matthew 7:3). Ellenberger (1970/1994) suggests that the "call of Saint Augustine, 'Seek not abroad, turn back into thyself'" was followed to the letter by Freud in his self-analysis (p. 449), a period of which he wrote: "the main patient who keeps me busy is *myself*" (p. 446, emphasis added). Similarly, Jung (1952a) cites a passage from St Augustine in which it is said that "men go forth" to admire nature but "turn away from themselves while doing so" (para. 21, footnote 21). And he seems to be almost paraphrasing it when he writes, for instance, that who "looks outside, dreams; who looks inside, awakes" (1916, p. 33) or that "people will do anything ... to avoid facing their own soul" (1968, para. 126).

1. Cultural forms

Why do these ways of thinking (or patterns of thought) recur with such consistency across the Western canon? In the second part of this chapter, we wish to propose two hypotheses about the nature of the operators that may explain this phenomenon. The first hypothesis is that operators are "cultural forms," i.e., ways of thinking that have been handed down the Western canon by means of cultural transmission, which psychoanalysis would have intercepted. This hypothesis comes with a certain approach to the historiography of psychoanalysis. If one accepts it, then one may be interested, for instance, in determining the common cultural sources from which thinkers as different as Freud or Jung would have acquired the operators. In this regard, as concerns the relationship between the founders of psychoanalysis and modern thought, a common cultural source may be identified in philosophy. We know in fact that both Freud and Jung were well-versed in modern philosophy, but also that, in many cases, they did not even need to have read directly a philosopher's works, since the culture that they were immersed in had absorbed their ways of thinking.

This is the case, for instance, with Nietzsche, whose ideas had enjoyed such success in the 1890s that an “entire generation was permeated with Nietzschean thinking,” so that “at the time of Freud’s early maturity it was not necessary to have studied Nietzsche to be permeated with his thought” (p. 276-277). Something similar may be said about modern philosophers like Kant, Hegel, or Schopenhauer, and the transversal impact their thinking had on the whole of Western culture. As Zilboorg (1952) also suggests, “historically there was a bond between Freud and the thoughts of his day” which “was not only intellectual but emotional in nature” (p. 494).

As concerns the relationship between the founders of psychoanalysis and ancient thought, on the other hand, a common cultural source may be identified in the classics (Stok, 2011; Tourney, 1965). As Ellenberger notes, one cannot understand men like Freud or Jung “without realizing that they had been immersed from childhood in an atmosphere of intensive classical culture and that this culture *pervaded all their thinking*” (1970/1994, p. 194, emphasis added). In the case of Freud and Jung, in particular, the connection to the classics was not only intellectual, but also deeply emotional, as indicated by the strange coincidence of the Roman phobia that afflicted both of them (Koelb, 2015). This phobia, together with Freud’s episode on the Acropolis, have been interpreted in light of the intensely personal relationship that these psychoanalytic thinkers had with the classics (Stok, 2011). So if, as Ellenberger (1970/1994) suggests, Freud and Jung gained from their classical education an intellectual ability to construct “a vast synthesis of their own” (p. 262-263), then this may explain why in each of these men’s syntheses, despite their differences in terms of content, one finds the same variety of cultural forms as are found in the whole Western canon. As Ramzy (1956) notes:

Anyone who has a nodding acquaintance with the history of human thought cannot fail to recognize ... how much Freud’s work embodies *in form and in content* the main features of the Western attempt to understand human nature and the human mind (p. 113, emphasis added)

But this historiographical approach, grounded on a conception of the operators as cultural forms, may be taken further and applied to specific authors and specific operators. For instance, one may examine Freud's intellectual life in search of the exact cultural sources from which he would have learnt to "think dynamically." We know, in fact, that Freud studied at the gymnasium on Lindner's handbook, which was based on Herbart's psychology. And that Herbart was the one who, applying Leibniz's "dynamic viewpoint" to psychology, had arrived at the conception of a "multitude of perceptions and representations" where the "stronger ones push the weaker ones down under the threshold" of consciousness and "the repressed representations strive to reemerge" (Ellenberger, 1970/1994, p. 312). However, according to Ramzy (1956), a more important influence on Freud's tendency to think in dynamic terms would have been his experience at the Brücke Institute, where he "spent six important years of his intellectual development" (p. 115-116), from 1877 to 1883. In this environment, Freud was exposed to the idea that psychic life can be reduced to physical forces governed by general principles, such as Helmholtz's principle of the conservation of energy. And Jones (1953) notes that the "spirit and content" of Brücke's lectures "correspond closely with the words Freud used in 1926, to characterize psychoanalysis in its dynamic aspect: 'The forces assist or inhibit one another, combine with one another, enter into compromises with one another'" (p. 41-42). Breuer, who a student of Brücke himself, was also deeply influenced by dynamic thinking, as was virtually every scholar in psychology in the late 19th to mid-20th century (Niro, 2023).

But a similar method may be applied to other operators. Whence did Freud learn to "think genealogically," for instance? Here, several sources might be indicated. The first one is archeology. We know that this discipline "underwent spectacular development and popularization" during Freud's youth and that he "read all the memoirs of famous digs, including Schliemann's Troy memoirs" (Koelb, 2015, p. 399). Freud identified with Schliemann, and fancied himself an archeologist of the mind (i.e., one who thinks about *the*

origin), as evidenced by his use of archeology as an analogy for analytic work, as early as in the *Studies on Hysteria*. A second source is Darwinism. In Darwin, one finds notions such as "the resurgence of ancestral forms," which are believed to have directly influenced Freud's theorization of fixation and regression (Ellenberger, 1970/1994 p. 230). But in *The Descent of Man*, Darwin applied the genealogical way of thinking also to society, language, and morals, in a way that foreshadows Freud's sociocultural speculations (p. 236). At these different levels, then, Freud's encounter with Darwin would have taught him a certain "*mode of thought*" that has to do with "the study of origins and a genetic point of view," as Ramzy (1956) suggests; and this encounter would have happened early on, since "one of the optional courses Freud attended when he joined the university was a course on 'Biology and Darwinism'" (p. 116, emphasis added). Ellenberger (1970/1994) also notes that in German culture, "young men of Freud's generation first became acquainted" with Darwinism through Haeckel, a biologist who hypothesized that all living species "originated from matter through the intervention of one elementary living being, the 'monere'" (p. 233). Through Haeckel, whose Darwinism was effectively "a late resurgence of philosophy of nature" (p. 234), Freud would have been exposed then to a notion very close to the Goethian *Urphanomene*. And Ellenberger makes a direct link between the *Urphanomene* and Freud's theories of the Oedipus complex or the "murder of the primordial father" (p. 204). Finally, a third source can be identified in Nietzsche, whose use of the Genealogical operator can be recognized not only in the *Birth of the Tragedy* and *Genealogy of Morals* ("the prototype" for Freud's *Civilization and Its Discontent*; p. 236; cf. Greer, 2002), but also, for instance, in his ideas about dreams as the reenactment of our past and that of mankind (Ellenberger, 1970/1994, p. 273-275).

The same historiographical approach could be applied to other psychoanalytic authors, such as Jung. We know, for instance, that archeology was Jung's first career choice, and Koelb (2015) shows how archeology was a source of conceptual models for Jung as much as for Freud. In fact,

Ellenberger sees the Romantic notion of *Urphimomen* reappearing also "in Jung's work under the name of 'Archetype'" (p. 204), and Jung himself, in relation to the archetypes, describes them as an "archaic vestige," a notion that he explicitly links to Nietzsche's theory of dreams (1954a, para. 398). But this historiographical approach could be taken even further, by asking: Whence did Nietzsche, for instance, learn to think genealogically? We know that, as a philologist, he was also very familiar with the classics, and may have derived some of the operators from the pre-Socratics philosophers, whom he quoted directly. But another source may have been Bachofen, who "found an admirer in the young Nietzsche" (Ellenberger, 1970/1994, p. 221), and in whose work one finds not only the Genealogical operator (in the idea of a forgotten world at the origin of time), but also the Dialectical one, in the idea that such a world would be "the complete reversal" of ours: for during matriarchy, "preference was given to sisters over brothers; to the last-born over the older children ... to the left side over the right side" and to *Dionysus over Apollo*, that pair of opposites which reappears in Nietzsche's theory of tragedy (p. 220).

One could trace in this way each operator back from generation to generation. But this historiographical approach is bound to leave unanswered an important question: namely, what makes it so that a particular way of reasoning *preserves* itself in time, so that thinkers like Bachofen, Nietzsche, or Freud find it fruitful to return to it with such consistency? And what makes it so that ourselves, as readers of their work, find their application of these ways of thinking to a variety of subjects to disclose vistas of meaning and increase our capacity for understanding? As Jung (1960b) explains, there is no denying that we "are shaped through education," but our educators, in turn, were influenced by certain psychological "dominants" (p. 433). A second hypothesis that imposes itself, then, and which is inspired by Jung's interpretation of historical factors, is that the operators are not only cultural forms handed down "by tradition," but also *natural forms*: i.e., constants or dominants of thought which are transmitted "by heredity" (Jung, 1940a, para. 88).

2. Natural forms

For Jung, this hypothesis imposes itself as necessary if we are to explain two kind of cases. The first are cases in which a certain pattern of thought is re-discovered in Western history "without there being any possibility of direct tradition" (Jung, 1940a, para. 88). This is the case, for instance, with Mesmer's animal magnetism, which, as already noted, was interpreted by both Ellenberger and Jung as a "rediscovery of the primitive concept of soul-force" (1918, para. 21). Already at the time of Mesmer, authors criticized him by noting that his discoveries could be traced to ancient authors, "such as Paracelsus," whom he "denied ever having read," while others "believed that Mesmer had rediscovered one of the secrets of the primitive world" (Ellenberger, 1970/1994, p. 66). The latter hypothesis echoes precisely Jung's idea that dynamic thinking would be not only a cultural, but also a natural form of thought with archaic roots (1918, para. 21). The second kind of cases are those in which parallels are found between Western and non-Western cultures. Ellenberger (1970/1994), for instance, reports parallels in dynamic thinking between the Western notion of energy and "the Polynesian concept of 'mana'" (p. 62), or in genealogical thinking between the pre-Socratic Empedocles and the Chinese philosopher Tson-Tse from the 6th century B.C (p. 22). In such cases, the hypothesis of a direct cultural transmission is put to the test.

Jung has many names for what we call the operators: "forms of thought" (1918, para. 21), "thought-forms" (1954b, para. 136, footnote 25), "patterns of order" (1952b, para. 870), "patterns of psychic functioning" (1958, para. 1271), "patterns of the human mind" (1940a, para. 88) or, finally, "patterns of psychic behavior" (1958, para. 1273), which is the same as to say *patterns of mental acts*. It is precisely the notion of psychic or mental *action* that offers Jung an analogy with the "patterns of behavior" of biology. Jung, in fact, suggests that these forms of thought may be considered "the psychological manifestations of instinct" (1958, para. 1271). The example he uses is the weaver-bird. Just as this animal builds its complicated nest through a

behavior rooted in its biology, so human beings may be born with a set of *specifically human modes of (mental) behavior*, and this may explain why “we can find psychic forms in the individual which occur not only at the antipodes but also in other epochs” (1954a, para. 435). In the case of weaver-bird, we do not assume that “each individual acquires his general mode of behaviour afresh each time,” for certain “complicated instinctive actions” can reappear “in animals that have never set eyes on their parents and therefore could not possibly have been ‘taught’ by them” (para. 435). A similar principle of explanation might be invoked for the “autochthonous revival” of thought-forms in human beings (1936, para. 92).

This alternative hypothesis about the nature of the operators comes with a different approach to the historiography of psychoanalysis. Instead of focusing on the lineages of cultural transmission, we may focus on the permanence of natural forms *despite* the influence of culture. Let us stay with the Dynamic operator as an example. A defining characteristic of this form of thought, as noted, is that psychic forces are thought of in analogy with physical ones. But this characteristic can be better understood from a historical perspective. In the first dynamic psychiatry, in fact, “German magnetizers commonly spoke of ‘dynamic-psychic’ forces” (Ellenberger, 1970/1994, p. 289). But at that time, Mesmer, “a son of the Enlightenment,” was “seeking a ‘rational’ explanation” for the magnetic cure and was led, by the discoveries in the field of physics, “to think of a physical concept” (p. 62). The model that he used is hydraulics, as evidenced by his conceiving of animal magnetism as a fluid. But he equally came to shape his theory “in imitation of the then current theory of electricity” (p. 187). Remnants of both models are found in psychoanalysis. Freud’s model of the mind, in fact, has been repeatedly described as “hydraulic” (APA Dictionary of Psychology, n.d.); and Jung, too, compared libido to a fluid as well as to an electric current (1928). If Mesmer imagined his fluid as having “conductors, isolators, and accumulators” (Ellenberger, 1970/1994, p. 63), Jung compared the symbol, as the catalyzer of libido, to a “transformer” of psychic energy (1928, para. 81). Yet, as

Ellenberger (1970/1994) notes, already with Puységur [1751–1825], the concept of a physical substrate as an explanation for the magnetic cure had been abandoned and “replaced by the concept of mental energy” (p. 111). Nonetheless, “the fluidic theory persisted side by side with the psychological theory during the entire nineteenth century” and “sometimes reappeared in a modernized version” (p. 148). This permanence can be explained by the fact that, even as a cultural movement had taken place from Mesmer’s “pseudo-physical theory” to “the insight that unknown psychological forces were at work” (p. 102), still behavior kept being thought of as being animated by *forces*, which in turn could not but be thought of in analogy with the those animating mechanical bodies. In other words, human beings could not stop thinking in terms of forces, even when “culture” superseded this “natural” form of thought.

Another example is the Dialectical operator. As Ginzburg notes (1976, p. 31):

Human beings represent reality to themselves in terms of opposites. That is to say, they cut the flow of their perceptions according to tidy, polar categories ... The old dictum ascribed to Heraclitus that reality is a struggle of opposites – a dictum which Hegel translated into the language of his own dialectical conception – can also be read in a different (and equally anachronistic) key ... Even if modern physics has become sufficiently unanthropomorphic to supersede this kind of logic, human beings still behave and think in a different way. To them, reality ... is not a continuum, but a realm of distinct, primarily polar categories.

Like Jung, Ginzburg suggests that this characteristically human way of thinking may have “deep biological roots” (p. 31). Which can explain why even when culture supersedes it, the way of thinking persists: because it would be grounded on something other than culture alone. In other words, human beings would not be able to stop thinking in opposites, just as they cannot stop thinking in terms of forces.

This alternative historiographical approach may serve also to reappraise certain controversies over authorship. In *The ego and the Id*, for instance, Freud (1923) compared the ego to a rider and the id to a horse, and explained that the former represents reason and the latter the passions. This metaphor clearly echoes Plato's metaphor of the chariot in the *Phaedrus*, which Freud however does not cite. So that, when Freud adds that this metaphor "falls into line with popular distinctions which we are all familiar with" (p. 32), some have accused Freud of using the term "popular distinction" as "a denial of the Platonic origins of the metaphor" (Buckley, 2001, p. 452). However, before accusing Freud of bad faith, another explanation to consider, grounded on a conception of the operators as not only cultural but also natural forms, is that Freud may have been led to think along similar tracks as Plato *by his own use of the operators* – in this case, principally the Symbolic operator, but also the Dialectical (pair of rider/horse), Enkratic (restrain of passions through reason), and Dynamic operators (horse as supplier of "locomotive energy"; cf. Stok, 2011, p. 70). Importantly, in such cases, as Jung (1952a) insists, it would not be "a question of *inherited ideas*, but of a functional disposition to produce the same, or very similar, ideas" (para. 154, emphasis in original). Which may explain why the chariot metaphor, in fact, does not occur only in Plato nor only in Western culture, but also, for instance, in Hindu and Buddhistic sources (Hebbar, 2020)¹³.

¹³ Another example is the metaphor of the therapist-as-mother. Analytic therapists like to compare themselves to the "breast" that allows the infant to go again through the stages of development (e.g., from the schizo-paranoid to depressive position). But this metaphor, which makes use of the Symbolic, the Dialectical (pair of infant/mother), and the Genealogical operators, was already used to describe the magnetizer/magnetized relation (Ellenberger, 1970/1994, p. 77, p. 153), and can be traced further back to Socrates, who compared himself to his mother Phaenarete, a midwife (hence the term "maieutics"). Other metaphors could similarly be historicized. Freud's metaphor of the unconscious as "the other scene," for instance, can be traced back to Herbart and Fechner (Ellenberger, 1970/1994, p. 312-313).

Another controversy over authorship concerns Freud's theory of the life and death instincts and its relation to Empedocles' theory of love and strife. Instead of invoking a case of cryptomnesia, as Freud (1937) himself did when he became aware of the similarity, one could see Freud as having been led by his own use of the Dialectical and Dynamic operators to this theory, which involves the postulation of a pair of *opposite forces*. This would explain why a very similar theory occurs, for instance, in von Schubert [1780-1860], who suggested that in "man, as in all living beings, the longing (*Sehnsucht*) for love cannot easily be separated from the longing for death (*Todessehnsucht*)" (Ellenberger, 1970/1994, p. 205). A combination of dynamic and dialectical thinking is found also in Mesmer, who thought of his fluid as having "poles" (p. 63), or in Jung (1928), who compared libido to an electric current with a positive and negative sign.

But the action of such "unconscious organizers of our ideas" (Jung, 1951, para. 278) becomes apparent also by considering their role in everyday language. Even today, in fact, do we not say, to someone who is impulsively rushing into something, to "hold their horses"? Such an expression, which some linguists have traced back to Book 23 of the *Iliad*, would bring us to a time that precedes the *Phaedrus*. And do we not also say that someone is "deflated," "puffed-up," or "full of life/spirit" (Dynamic)? Or is not our language structured around opposites, such as "light and dark, hot and cold - high and low" (Dialectical) (Ginzburg, 1976, p. 31)¹⁴? The presence of such forms in everyday language sheds light on Jung's idea that "[i]nterpretations make use of certain *linguistic matrices* that are themselves derived" from such archaic thought-forms (1954c, para. 67, emphasis added)¹⁵.

¹⁴ Ginzburg (1976) suggests that these patterns are "reflected in language, and subsequently in thought" (p. 31). But for Jung, in many cases, forms are not "conditioned by language," but the other way around (1954b, para. 136, footnote 25).

¹⁵ Ellenberger (1970) also focuses on the remnants of antiquity in language. For instance, in relation to the ancient theories of spirits, he notes: "Do we not say that our mental patients are 'alienated', 'estranged' from themselves, that their ego is impoverished or destroyed?" (p. 9).

In relation to the Formal operator, we have already mentioned the etymology of *logos*, which indicates that the concrete act of making a bundle of wood may have been the precursor of the mental act of extracting a theme or pattern. But this root meaning lingers on, for instance, in the Italian expression “fare di tutta l’erba un fascio” (literally, “turning every herb into a bundle”), which means making excessive generalizations, as one is prone to do through this operator. The closest equivalent of this idiomatic expression in English, “painting something with a broad brush,” on the other hand, already bring us closer to the core idea of the Mimetic operator, and to the risk of describing “someone or something in a very general way, without paying attention to small details or differences” (Cambridge Dictionary, n.d.). As Jung notes, in our inquiry on the origins of these thought-forms, from “whatever side we approach this question, everywhere we find ourselves confronted with the history of language,” and following these forms further leads us “straight back to the primitive wonder-world” (1954c, para. 67). These are forms that we “have inherited from the dim ages of the past” (1931, para. 315). If “they ever ‘originated’ their origin must have coincided at least with the beginning of the species” (1954d, para. 152), just as the peculiar behavior of the weaver-bird must be as old as its whole species. For Jung (1954c), the “*forms we use for assigning meaning are historical categories that reach back into the mists of time*” (para. 67, emphasis added). We must imagine prehistoric men and women already wondering about the origin of things (Genealogical); already investing nature with ulterior meanings (Symbolic); already deciphering clues in the ground (Investigative); already dividing the world into a high and a low (Dialectical); and already gathering objects into bundles (Formal)¹⁶. “We are not of today or of yesterday; we are of an immense age” (Jung, 1960b, p. 433).

¹⁶ Even what we call the Enkratic operator was considered by Jung an *instinct*, although it functions to restrain other instincts: “There is another instinct, different from the drive to activity and so far as we know specifically human, which might be called the reflective instinct” which

3. A possible synthesis

The two hypotheses about the nature of the operators – as cultural or natural forms – are not mutually exclusive, but find a possible synthesis in the idea of certain *innate but trainable predispositions of thought*. This idea is found again in Jung who, despite his arguing in favor of the innateness of forms of thought, fully recognized the role of cultural history. An example is the history of what Jung calls “directed” (abstract, language-based) thinking and opposes to “non-directed” (concrete, image-based) thinking. Jung notes that directed thinking finds its “clearest expression” in modern, Western “science” but also that, as “history shows,” it “was not always as developed as it is today” (1952a, para. 21). His hypothesis, then, is that Western culture would have gone through certain historical periods of *collective training* in directed thinking, which laid the bases for modern science. He identifies one of these periods in scholasticism. Thinkers like “St. Thomas Aquinas, Duns Scotus, Abelard, William of Ockham” laid the foundations for modern science (para. 22) by occupying themselves with seemingly abstract problems, the analysis of which would have taught the West to “think”:

[Scholasticism] gave the mind a dialectical training in directed thinking ... The subjects he [i.e., the scholastic thinker] thought about were often unbelievably fantastic; for instance, it was debated how many angels could stand on the point of a needle, whether Christ could have performed his work of redemption had he come into the world in the shape of a pea ... Nietzsche glimpsed something of the background of this phenomenon when he spoke of the “glorious tension of mind” which the Middle Ages produced. (para. 21)

consists in “bending back” and endow a certain reflex with a process of “psychization” that interferes with the impulse to act, and thus introduces the possibility of having, “instead of an instinctive action,” a process of “reflection or deliberation” (1942, para. 241). Something similar may be said about the other reflective operators. See, for instance, Halliwell (2021) on mimesis as “a basic type of human behaviour” (p. 31-32).

This period of history, for Jung, “consisted essentially in a *dialectical gymnastics*” of collective proportions (para. 22, emphasis added). We see here, then, how the two hypotheses can come together. If something like dialectical thinking *in itself* is a predisposition of the human mind to divide the world into opposites that is rooted in biology, and which is virtually no different today than it was at the time of Heraclitus (Ginzburg, 1976), at the same a particular *exercise* in this skill, imparted by culture and tradition, can differentiate it into a refined conceptual competence¹⁷.

Here, a parallel can be made with psychoanalysis itself. If the operators used in psychoanalytic clinical reasoning, on the one hand, are inherited forms of thought that have existed since time immemorial, on the other hand authors like Freud or Jung – just like St Thomas or Duns Scotus – have brought these skills to great sophistication through the “glorious tension” of their minds. Although psychoanalysts do not discuss angels and needles, the theoretical problems that they pose to themselves can sometimes struck the layperson for their equally “fantastic” character, if we consider for instance Lacan’s discussion of the “lamelle” (as a mythical entity that reminds one of Haeckel’s monere), or Meltzer’s discussion of how many “compartments” are there in the interior of the mother. Yet, through this collective process of enculturation, psychoanalysis (like scholasticism) may have effected a collective training in certain natural predispositions of thought, turning them into highly sophisticated functions, like a blade becomes sharper by passing it over the stone.

However, what seems specific to psychoanalysis is having cultivated a particular *collection of reasoning skills*. Among these, there are some skills, such as formal or dialectical thinking, that can be considered directed thinking

¹⁷ Another example are natural numbers. As Jung (1952b) notes, one could argue that numbers were “invented” by human beings, but it is “equally possible,” as suggested by their ubiquitous appearance across cultures, that they have “the quality of being pre-existent to consciousness” and constitute “a priori forms of representation” (para. 871). Yet, the innate predisposition of the human mind to “count” is obviously brought to great sophistication through scholastic education.

and find expression also in modern science. But among them, there are also others, such as symbolic or spontaneous thinking, that lean towards non-directed thinking and find no equivalent in modern science. The use of metaphor, in fact, due to a cultural heritage that has been traced back to Aristotle, is typically thought of as belonging to poetry or rhetoric, and not serious scientific investigation, which is why it is typically left out of scientific training (Driscoll, 2012). Similarly, spontaneous thinking "is carefully avoided in scientific thought" (Jung, 1906, para. 662). Yet, in psychoanalysis, use is made of both. Contrary to the modern scientist, the trainee analyst must learn not only "*concentrated, directed thinking*," but also "*spontaneous, non-directed ideation*": s/he "must from the very outset learn an entirely new process of scientific investigation" (Zilboorg, 1952, p. 489, emphasis in original). We may say then, paraphrasing Aristotle, that rationality in psychoanalysis is said "in many ways." The blade that is being sharpened is not only that of abstract (dialectical or formal) thought, but that of reflexivity in its many declinations.¹⁸

This collective training that psychoanalysis, as a large-scale cultural movement, effected on certain dimensions of rationality, would be recapitulated also at the individual level. When a person decides to train as an analytic therapist, they embark on a long process to develop, among other things, their capacity to "think." This process involves a personal analysis and clinical supervision, in which one is administered the medicine of, say, enkratic or self-reflective reasoning. But also the attendance to theoretical seminars, in which high-level, conceptual abilities are refined. In this training, one finds the same dialectic of culture and nature. For the training involves going through certain exertions imparted through education. But what is being trained are natural

¹⁸ That Jung is not referring only to the development of dialectical thinking, but reflexivity in general, is demonstrated by his reference to Petrarch as one of the forerunners of the modern "approach nature in a spirit of understanding" (see 1952a, para. 21, footnote 21). In this passage, Jung is mentioning Petrarch in relation to the quote by St Augustine which we have already ascribed to the Self-reflective operator.

predispositions of thought that a trainee may be more or less naturally gifted with. This process can be compared to the ear training of musicians, which involves repeated exercises to develop the capacity to identify notes or specific intervals. By going through such an educational process, a musician can achieve great sophistication in this specific ability. And yet, the ability in itself is a faculty that is rooted in the biology of the human ear and is present, to some degree, in every person capable of hearing. Similarly, sommeliers train to develop their ability to capture the nuances of wine. But what they are training is a natural predisposition rooted in the biology of the human nose, and innate in every person capable of smelling.

Something similar might be said about the operators, and may explain the peculiar paradox by which these conceptual and reflective skills seem to be, at once, *effortless* and *effortful*. It was easy, for instance, for the patient from the vignette about the Dialectical operator, to see the opposition between herself and the flat mate. But how difficult it was for her to see that the opposition could have been flipped around one more time, and, together with the Self-reflective operator, let it point to herself. So if, on the one hand, there "is no consciousness without discrimination of opposites" (Jung, 1954d, para. 178), and there is no consciousness without a principle of self-reflection either, on the other hand, "the difficult operation of thinking in paradoxes" is "a feat possible only to the superior intellect" (Jung, 1944, para. 188), and so is proper self-reflection. The same is true of the Spontaneous operator: as Jung (1906) explains, "this particular way of thinking," which is "required for psychoanalysis" and can be described as the ability to "think in flights of ideas," is "*innate* in a poet," on the one hand, but on the other "can only be acquired by *constant application*" (para. 662, emphasis added). When Galton, for instance, started experimenting with free associations on himself, "while alone, walking in the streets," what he (re-)discovered was nothing other than the natural predisposition of the human mind to wander and associate. And yet, his "truly novel and truly honest effort" took him a long way

(Zilboorg, 1952, p. 493, emphasis added). In a similar vein, we can interpret also Aristotle's assertion that learning to master the use of metaphor is a great thing, but that metaphor "is one thing that cannot be learnt from others" because "it is the underlying condition of all learning" (Driscoll, 2012, p. 29).

4. Conclusions

As illustrated by the clinical vignette in the introduction of this chapter, analytic therapists weave together several operators even in a single chain of clinical reasoning. Yet, for each operator, as shown, a separate history could be written. In this sense, too, reasoning can "be seen as a kind of gathering" (Hoffman, 2003, p. 29), as it involves pulling together a collection of mental acts. But what is the nature of this gathering? In this chapter, we have suggested that it may be seen as a cultural process, such as the gathering of "words" (p. 29) that occurs in everyday speech, where each word, taken separately, could be shown to have its history, having passed through the lips of countless, nameless people before falling on ours. But we have suggested that it may also be seen as a natural process, such as the gathering of sticks by the weaver-bird, where each stick, taken separately, also has its "history," having fallen from this tree or that bush.

To sketch a history of the operators, in this chapter we have limited ourselves to philosophy or, to a lesser degree, religious thinking. However, such a history would not be complete without art. Art, in fact, "thinks" too, although according to a way of thinking that comes closer to von Schubert's picture language. Freud not only drew one of his best known concepts from Greek tragedy, but also had the impression that modern novelists, like Schnitzler, had learned through "intuition" what he had had to unearth through clinical work. A history of the operators, then, may trace the Emancipatory operator also to Dostoevskij's *Great Inquisitor*; the Symbolic operator to Baudelaire's *Correspondances*; or the Self-reflective operator back to Oedipus' answer to the Sphinx, whether one accepts his answer as correct, or

whether one agrees with Jung (1959) that it should have been “the Sphinx *itself*” (para. 714, emphasis added). Similarly, Ellenberger (1970/1994) traces many analytic ideas back to poets and playwrights, such as Dante (p. 713) or Ibsen (p. 273, 537). As he notes, what is explained by a scientist “in one hundred pages of psychological language,” can often be explained by a poet in a concise “sonnet” (p. 293).

Chapter 5:

The cunning of clinical reason in psychoanalysis

How a case makes use of
reflective agents to conceptualize itself

The process of case conceptualization in psychoanalysis has at times been described by those involved as the progressive emergence of a “logic” that can be grasped only retrospectively. However, there has been little effort to frame this phenomenon in a theoretically grounded way. In this chapter, we suggest that Hegel’s doctrine of the cunning of reason may be used to better understand the process of psychoanalytic case conceptualization. According to Hegel, historical agents unwittingly realize the logic of history by pursuing their passion for self-aggrandizement. Analogously, we propose that reflective agents unwittingly realize the logic of the case by pursuing their passion for understanding. We illustrate this process by means of two case examples drawn from supervision sessions that were subject to an interpersonal process recall procedure. The examples are used to document the progressive emergence of the logic of the case in a succession of reflective rounds, as evidenced by the unconscious insistence of certain words or clinical acts. However, it is only at the end of the process that the reflective agents can retrospectively become aware of the logic that was there from the beginning. In this sense, reflective agents may be thought of as the “means” through which a case attains the purpose of conceptualizing itself. We highlight five conditions for this purpose to be fulfilled: time, immersion, passion, opposition, and reflection.

Reference

Polipo, N. F., Willemsen, J., & Vidali, C. (2023). The cunning of clinical reason in psychoanalysis: How a case makes use of reflective agents to conceptualize itself. *Journal of Theoretical and Philosophical Psychology*. Advance online publication. <https://doi.org/10.1037/teo0000234>

The cunning of clinical reason in psychoanalysis

How a case makes use of
reflective agents to conceptualize itself

The process of case conceptualization in psychoanalysis has at times been described by those involved as the progressive emergence of a "logic" that can be grasped only retrospectively.

Symington (1996), for instance, gives a rich phenomenological description of this process. He states that "within the first minute" of receiving a new patient, a "feeling representation" has become "registered" in him (p. 24). But this representation of the patient, however "accurate," lies initially outside his reach, for there is "a barrier" between his "ego and this representation" (p. 24). As the conversation with the patient proceeds, however, the representation guides Symington in carrying out certain clinical acts – for instance, asking a question, without really knowing why. These clinical acts, in turn, bring out something important about the case. Thus, by reflecting on them, Symington finds himself now in a position to clarify that originally "blurred but quite definite" (p. 24) representation, and become aware of what, in a sense, he *already knew*. In this way, there is a shift from a "knowledge" that was "registered within the personality" but still unconscious, to a knowledge that is finally "consciously possessed" (p. 26-27). Something in the case takes "form" and can thus be "apprehended and then named," i.e. conceptualized (p. 29).

What Symington describes here is not a rare occurrence. As he notes himself, "I do not think a day passes in which I do not observe an instance of it in my consulting-room" (p. 25). In fact, more generally, we may recognize in

Symington's account a common analytic experience. As noted by Beres and Arlow (1974), in the practice of psychoanalysis: most therapists appreciate only in retrospect the rich and subtle interconnection of the inner logic of the material. For the most part, but by no means exclusively, the data is conceptualized outside of awareness. First, it is intuited, and then, it is rationalized. (p. 30)

Although the psychoanalytic literature attests to the possibility of such a "retrospective conceptualization" of a case, this phenomenon has been described until now in an anecdotal and under-theorized way. As revealed by Symington's account (1996), for instance, important theoretical issues, such as the idea of an "unconscious possession" of knowledge" (p. 27), are hinted at by psychoanalytic authors, but rarely grappled with. So how can we think about this phenomenon in a more theoretically grounded way?

In this chapter, we suggest that, to do so, we may turn to the philosophy of G. W. F. Hegel, and specifically to his doctrine of the cunning of reason. In what follows, we will first outline Hegel's doctrine in the context of his discussion of the dialectic of means and purposes. Then, we will use two case examples to illustrate the phenomenon of the cunning of reason as it applies to the process of case conceptualization in psychoanalysis. Finally, building on Hegel's doctrine, we will propose a list of conditions that are needed for the logic of a process to emerge and be made conscious by the agents involved.

1. Hegel's doctrine of the cunning of reason

The concept of the cunning of reason (*List der Vernunft*) is one of the best known in Hegel's philosophy, and this for good reason: Many of the author's most significant categories are at work in it. The most famous recurrence of the expression "cunning of reason" is probably that of the introduction to the *Lectures on the philosophy of world history*, a posthumous publication of the courses that Hegel

held at the Humboldt-Universität in Berlin during the 1820s. However, the same expression appears also in other works with more systematic intentions, in particular *The Science of Logic* (1812-1816/2010) and *Encyclopaedia of the Philosophical Sciences* (1830/2010).

1.1 The historicity of human beings, the humanity of history

To understand the concept of cunning of reason, it is useful to start from the idea that, for Hegel, “what truly characterizes Man, what distinguishes him essentially from the animal, is precisely his *historicity*” (Kojève, 1947/1980, p. 209)¹⁹. Being historical means first and foremost being *finite*: by coming into the world, human beings take part in something that has already begun – in a world of already articulated meanings, identities, stories – and, at their death, they cease to participate in a world that will survive them and whose development they will not know. This finiteness has a dual nature. On the one hand, it is a matter of existence – trivially, “I die before the end of history, and I am born after its beginning” (Kojève, 1968, p. 384). On the other, it is a matter of *knowledge*.

But what, as finite beings, do human beings not know? Surprising as it may be, according to Hegel, *what human beings do not know is precisely history*. Just as fish do not know the sea because they are one with it, so human beings do not know history because they are immersed in it: they do not differentiate themselves from it insofar as history is their “second nature” (Hegel, 1830/2007, §410, p. 131). Furthermore, human beings spend a short time on earth compared to the totality of history, just like mayflies that only

¹⁹ Alexandre Kojève was one of the most important Hegelian interpreters of the 20th century. Incidentally, Lacan was introduced to Hegel’s philosophy through Kojève. From 1933 to 1939, Kojève held a weekly seminar on the *Phenomenology of Spirit* at the Ecole Pratique des Hautes Études in Paris, which was attended by key figures in French intellectual life. Lacan regularly attended these lectures from 1934 until 1937 (Roudinesco, 1993, p. 142).

live a day. And that is why, as human beings witness wars, technological innovations, or revolutions, they believe themselves to be the spectators of brute and unrelated fatalities, prisoners of events that they see only from their perspective and not in their intertemporal trajectory, that is, in their overall historical *development*. In this sense, human beings do not know history in the sense that that they do not know, more precisely, *the logic of history*, and they cannot know it precisely because they find themselves in it.

And yet, at the same time, "to understand the edifice of universal history and the process of its construction, one must know the materials that were used to construct it. These materials are men" (Kojève 1947/1980, p. 32). An apparent paradox thus emerges: human beings do not know the history of which they, however, are the authors; history is made by those who do not know it. It is in this unconscious fulfilment of history by human beings that the cunning of reason consists.

1.2 The cunning of the purpose

For Hegel, human life is not animated by the impulse/satisfaction pair, but by the will/purpose (*Zweck*) one. While animals are primarily driven by impulses to which they must obey, human beings have a will that allows them to stand above their impulses and make them their own (Hegel, 1820/2008, pp. 35-36). More precisely, while animals experience an endless cycle of needs that emerge and are satisfied, human beings *objectify* their needs, and can deny them by deferring them, working on them, transforming them. Thus, for example, blind hunger turns into a desire to feed at certain hours, with certain rites, on certain foods. But this is possible only insofar as the object of human will is not a determined and positive content, but a *purpose* – that is, a nothingness, an absence, an "unreal emptiness" (Kojève, 1947/1980, p. 5) which "must be" and, as such, implies a contradiction with the existing world that finds it unrealized.

But what is the nature of the purposes that drive human action? Hegel designates the purpose as abstract insofar as it

is *subjective* (Hegel, 1830/2010b, §204, p. 276). This has to be understood in two senses. First, the purpose is "subjective" in the sense that it is *inward*: if, with Hegel, "what is rational is actual and what is actual is rational" (1820/2008, p. 14), then the outward non-existence of the purpose proves that it does not (yet or at all) have sufficient reasons to realize itself. Existing *only* inwardly (i.e., in and for the subject) means not being necessary, and only the eventual realization of the purpose will testify to its concreteness, its objective value. Secondly, the purpose is "subjective" in the sense that it is *merely particular*. If my purpose is to obtain a few coins to impress my friends with a magic trick, that is something totally subjective and contingent; if, on the other hand, my purpose is to invest this money, then this purpose cannot be said to be "mine" (i.e., personal, particular, subjective), since that is the necessary (and therefore objective) function of money in our society.

In the distinction between subjectivity, contingency and particularity on the one hand, and objectivity, necessity and universality on the other, we see outlining the distinction between possibilities that are real only *de facto* and historical possibilities (cf. Kojève, 1947/1980, pp. 136-137, footnote 125). Let us consider, for instance, the fall of a wall. Such an event may occur through simple wear and tear, in which case no human purpose is realized, because nothing is *essentially* transformed before or after the event. Where, on the other hand, the wall assumes a historical value, as in the case of the Berlin Wall, then its fall takes on a completely different meaning: its destruction by human hands expresses the collapse of a whole order of things and the rise of a new one. Although in both cases, from a physical point of view, one and the same event takes place, their significance is different precisely because in the latter case what gets actualized are objective and long-prepared historical possibilities which have nothing to do with the arbitrary will of the individual.

If, however, a human being was to contribute to the realization of a purpose (even an objective and historical one) alone, and especially with the aid of nothing but their own hands, then they would only ever be able of pursuing a limited

and rudimentary set of purposes. Hence, in human beings, the work conducted for the fulfilment of a purpose is objectified in the *means*. The means for Hegel plays a fundamental role since, through it, human beings can preserve themselves: in mediated labour, in fact, it is the means that is consumed, and not human beings. This is the sense in which, in both *The Science of Logic* and the *Encyclopaedia*, Hegel speaks of the cunning of reason (cf. Hegel, 1830/2010b, §209, pp. 280-281):

that the purpose posits itself in a *mediate* connection with the object, and *between* itself and this object *inserts* another object, may be regarded as the *cunning* of reason ... in this way, by sending an object as a means ahead of it, it lets it do the slavish work of externality in its stead, abandons it to the wear and tear while preserving itself behind it against mechanical violence. (Hegel, 1812-1816/2010a, p. 663)

1.3 The reason of passions

We said that the cunning of reason consists in the fact that reason places between itself and its purpose a medium that wears itself out in its place, guaranteeing in any case the realization of the purpose. Yet, we also said that human beings are not the masters of their own purposes, since alongside subjective or abstract (and therefore contingent) purposes, there are purposes that are objective or concrete, and as such properly historical. It follows then that, for Hegel, *the cunning of reason must be ascribed, in a proper sense, precisely to history*. In this sense, *with respect to history, individuals "are instruments"* (Hegel, 1830/2007, § 551, p. 249), *to be consumed in view of the realization of historical purposes*.

In particular, according to the doctrine of the cunning of reason, history does not make use of all individuals in the same way. Particularly suited to its cause are those whom Hegel calls "world-historical" individuals, such as Caesar or Napoleon. Of course, it is not the fact that Napoleon is himself that gives him the historical role he fulfils; on the contrary, it

is his historical function (which could have been embodied by others) that makes Napoleon such. A world-historical individual can be said to be such insofar as it is "through him, through this particular man, that the 'common cause', the truly universal cause, is realized" (Kojève, 1947/1980, p. 69).

As Hegel admits, this dynamic inevitably exerts a form of *violence* (*Gewalt*) on what is made into a means (1812-1816/2010, p. 663). Why, then, should human beings gladly accept this abuse, "degrading" themselves to being the means of history? This happens, according to Hegel, because in historical agents the will is not yet self-conscious, i.e. aware of the universal motivations that determine it, but takes the form of the "*urge* and *inclination*": that is, this will "is initially ... *passion*" (Hegel, 1830/2007, § 473, pp. 210-211). On the one hand, the passions (*Leidenschaften*) are for Hegel *intrinsically* abstract, for, "belonging as they do to the still subjective, individual will, they are afflicted with contingency" (Hegel, 1830/2007, § 474, p. 211). Yet, at the same time, passions are the very material that history lives on (that which is used to enslave the human means).

In particular, what defines passions for Hegel is that "a subject has placed the whole vital interest of its mind, talent, character, enjoyment in *one* content" which is the condition for "anything great" to ever be accomplished (Hegel, 1830/2007, § 474, p. 211) – including, indeed, historical purposes. In this sense, by "passions" Hegel does not mean what is generally understood as emotions or feelings. Rather, the passions that history uses to make some historical agents its functionaries are better conceived as self-serving strivings that have a compulsive and all-consuming character. In historical agents, passions typically take the form of a desire for "self-aggrandizement" (Tucker, 1956, pp. 269-270). As Hegel says referring to the great individuals of history, such as Caesar or Napoleon, their reward for having taken upon themselves the realization of the purposes of history is *fame* – which Hegel also describes as a "formal universality of subjective representation" (Hegel, 1830/2007, § 551, p. 249). Fame is *universal*, in so far as it is moved by something objective and concrete (it is history itself that is made in it).

Yet, at the same time, the acting subject only has a subjective representation of it. This means that the subject is *unaware* of the objective causes of his action, that is, of the universal form of the will that they are embodying. But it is precisely this unawareness that can stubbornly push forward the demands of history, and this because "the *subject* is the *activity* of satisfying urges, of formal rationality, namely of translating the content, which in this respect is purpose, from subjectivity into objectivity" (Hegel, 1830/2007, §475, p. 212).

In the light of all this, one question remains: what is the purpose of history, such that human beings must be made into means?

1.4 History as the becoming self-conscious of the idea of reason

The dialectic between determined means and purposes is in constant becoming: "In the finite purposiveness ... The purpose attained is thus only an object that is also in turn a means or material for other purposes and so on ad infinitum" (Hegel, 1830/2010b, § 211, p. 281). However, the human totality – that is, *all of* human knowledge, labor, activity – cannot in turn be a means, since it is the background and condition of that which produces means and purposes. This unmoved mover, the ultimate purpose in and of itself, this unity at the bottom of all oppositions, identity at the bottom of all differences, is what Hegel means by "Absolute Spirit" (*absoluter Geist*) or "Idea of Reason" (*Idee der Vernunft*). Just as disagreement with someone else presupposes the unity of language and the system of understandings that binds the disputants; just as conflict between two partners implies the love that holds them together – so, every opposition of human beings against nature (through labor) and every opposition of human beings against each other (through war or struggle for recognition [*Kampf um Anerkennung*]) that have studded history, were but moments of the same idea which is the human totality.

However, for Hegel precisely the idea, the absolutely concrete, does not exist *immediately*: that is, it has not always existed, but rather *it produces itself in time*. Ignorance of the idea throughout the course of history – that is, the experience of contradiction, opposition, distinction of “the subjective from the objective” (Hegel, 1830/2010b, § 214, pp. 284) – is thus not merely an error, but the necessary condition for the realization of the idea itself:

It is this illusion in which we live and at the same time it alone is the activating principle upon which the interest of the world rests. The idea in its process fabricates that illusion for itself, positing an other opposite itself, and its action consists in sublating this illusion. Truth emerges only from this error and herein lies the reconciliation with error and with finitude. Otherness or error, as something sublated, is itself a necessary moment of the truth, the truth which only is by making itself its own result (Hegel, 1830/2010b, § 212, p. 282).

That such idea exists, for Hegel, need not be argued with embarrassment: if the “Roman Empire,” the “Catholic Church” or the “Soviet Union” are not artificial and arbitrary constructs, but real forces that have moved millions of human beings to act, then there is no reason why the same cannot be said – and all the more so – of history as such (Hegel, 1830/2007, § 549, p. 249). The idea therefore does not exist in the sense in which physical things exist, nor is it abstract in the sense in which fantasies are said to be; rather, the idea is supremely concrete and real (*wirklich*) as the spiritual pole of gravitation towards which history tends.

That the idea is always the same, too, does not cause any embarrassment for Hegel, just as a person at five, twenty, or fifty is said to be the same, despite being completely different. Indeed: “The idea is essentially a *process* since its identity is ... dialectical” (Hegel 1830/2010b, § 215, p. 286). And its identity is dialectical insofar as, while it is true that it was realized and revealed as such only as a result of human activities, it had always been present in them. In the course of time, the idea is not elsewhere, behind

some veil of appearance; rather, it *is* the experience of human history itself. The spirit “does not just hover over history as over the waters, but weaves in it and is the sole moving force” (Hegel, 1830/2007, § 549, p. 249).

The necessary illusion of opposition thus allows the removal of objectivity *as exteriority*, that is, the progressive assimilation of otherness up to the point where humanity has itself as its object. Only then will it exist in the full sense and, therefore, only then *will it know itself as such* for the first time, understanding the logic of the history that produced it. That such knowledge should occur in the person of Hegel or in someone else’s is irrelevant (Parkinson, 1989, p. 290): what makes the difference is that it is produced – always after the fact, always a posteriori, as “the owl of Minerva begins its flight only with the falling of dusk” (Hegel, 1820/2008, p. 16).

But that such knowledge should occur – and that this should happen *necessarily*, since the whole of history is the unconscious preparation for its advent – therein lies the cunning of reason:

The particular has its own interests in world history; it is of a finite nature, and as such, it must perish. Particular interests contend with one another, and some are destroyed in the process. But it is from this very conflict and destruction of particular things that the universal emerges, and it remains unscathed itself. For it is not the universal Idea which enters into opposition, conflict, and danger; it keeps itself in the background, untouched and unharmed, and sends forth the particular interests of passion to fight and wear themselves out in its stead. It is what we may call the cunning of reason (Hegel, 1837/1975, p. 89).

2. The cunning of clinical reason in psychoanalysis

Hegel formulated the doctrine of the cunning of reason to explain the process of world history. However, the tenets of this doctrine may be applied to virtually any process with a teleological orientation. In what follows, we propose an application of Hegel’s doctrine to the explanation of the

process of case conceptualization in psychoanalysis. Our suggestion is that, just as historical agents may be said to unwittingly contribute to the unfolding of the logic of history, then something similar may be said about the reflective agents in relation to the logic of a case. By “reflective agent” we mean any subject who, in one capacity or another, is involved in the reasoning process around a clinical case (such as the patient, the therapist, or a supervisor to whom the therapist might turn). By “logic of the case,” we mean a rational interrelation between the elements of the clinical material that exists within the case, and which is not the reflective agents’ making. The cunning of the reason consists in the fact that the reflective agents can become aware of the logic of the case only retrospectively, after having unwittingly contributing to realize it.

To illustrate this phenomenon, we are going to use two case examples. Both examples come from an empirical study that was conducted by the first and second author (Chapter 1). In this study, the process of psychoanalytic clinical reasoning was being explored using a methodological procedure known as “interpersonal process recall” (Kagan et al., 1969). The procedure consisted in having pairs of psychoanalytic supervisors and supervisees record a supervision session in their naturalistic setting. Then, one week after the session, a retrospective interview was organized with the supervisor. During this interview, the recording of the session was played back and the supervisor was invited to stop it whenever a significant conceptual or reflective process had taken place in them *at that time* in the supervision session. The supervisor was then asked to spell out that process in as much detail as possible. The procedure thus involved a clinical case being discussed in three “reflective rounds”: the one between patient and therapist, the one between therapist and supervisor, and the one between supervisor and interviewer.

In particular, the two case examples that we selected for illustration come from a group of four senior Lacanian analysts. These analysts, who are colleagues at the same clinical center, agreed to take part in our study. But instead

of recording a session with one of their supervisees, they decided to split into two pairs. Each pair recorded two supervision sessions: one in which an analyst was bringing a case and the other was playing the role of the supervisor, and a second session in which the roles were reversed. Of the four cases that were discussed in this way, two are presented here (one from each pair). We call them the "shoulder bag case" and the "nebulous case." The supervision sessions and the retrospective interviews for these two cases were all recorded in April 2021. To facilitate the discussion, we are going to use "P" for patient, "T" for therapist, and "S" for supervisor, followed by the number of each pair. T1 and T2 are female analysts; S1 and S2 are male. Data are being reproduced for publication with the informed consent of the participants.

2.1 The shoulder bag case

The first case concerns a man in his 60s who has been referred by the police to a specialized treatment center following episodes of domestic violence. T1 starts the supervision session by explaining how the collaboration between the treatment center and the police works. The center offers a cycle of sessions that are free of charge for a period of no more than 3 months. Then, at the end of this cycle, the patient can start a treatment; a symbolic payment, however, is required.

T1 continues by giving some details about the episodes of violence. The patient and his wife got married when they were very young, but they have a "peculiar way of being together." Violence seems to have been present throughout the relationship. But while in the past disputes used to be resolved with "a few slaps," recently the episodes have involved P1 "shoving" his wife. This qualitative change from "slaps" to "shoves" (terms that are used by P1) seems to coincide with the fact that 4-5 years ago P1 was fired and started to spend more time at home with his wife. Later in the session, it will emerge that the wife, who has mental health problems for which she has been in psychiatric care, has developed a jealousy delusion. Out of nowhere, she starts

accusing P1 of looking at other women. This leads to arguments in which P1 gets angry and shoves her. P1 says that the situation has become unbearable, insisting that "he can't get her off himself."

T1 says that she has been struck by something about P1, which she has noted "over time, retrospectively." He always comes to the sessions dressed in the same way: a tracksuit, a jacket, and a shoulder bag attached across the body with a strap. When P1 comes to the consulting room, he never takes off his jacket or the shoulder bag, but keeps them on during the whole session. According to T1, this is an important clinical detail, because it parallels the relationship that P1 has with his wife: "it seems to me that it is the same type of relationship, of bond that he has with this woman." Here T1 is implicitly suggesting that both his wife and the shoulder bag are objects that P1 has difficulty "getting off himself." Later in the session, another link will emerge between the shoulder bag and P1's wife. T1 will report that the episodes of domestic violence are often triggered by the fact that P1, exasperated by his wife's jealousy, takes his shoulder bag to leave the house (the bag is where he keeps his keys and documents). But his wife holds him back by grabbing his shoulder bag, and that is when P1 shoves her to separate himself from her.

P1's peculiar relation to objects is also revealed by an episode that happened at work, which is the reason why he got fired 4-5 years ago. P1 was working as a handyman for a company, when one day he saw some computers laying around in a room. These were old computers that were going to be replaced by new ones and had been placed there momentarily. However, P1 thought that nobody would care if he took them, with a view to sell them and make some money. When his superiors found out, they convoked him and fired him for having stolen the computers. Yet, T1 underlines that P1 does not seem to have ever thought about what he did as *theft*. "They were there, I took them," he says. For T1, the use of the word "taking," rather than "stealing," is comparable to his use of the word "shove" to refer to the

incidences of partner violence. It yet again illustrates how P1 takes things very lightly in life.

Most of the clients who are referred by the police to this treatment center come once, says T1, never to be seen again. In contrast, P1 has always come dutifully to sessions and never missed an appointment since the start of therapy in June 2020. However, there was an abrupt interruption of the treatment process in November. T1 was waiting for P1, but for the first time he did not show up nor call. Later, T1 found out that P1 had been arrested for a new incident of partner violence. P1 spent a month in prison and several months under house arrest. One day, the lawyer contacted T1 to ask if a new session could be scheduled. P1 returned to the treatment center, wearing the same jacket and his shoulder bag, to be received by T1. What struck T1 is that, upon his return, P1 behaved as if nothing had happened. "I'm very glad to see you, doctor," he simply said.

Although P1 comes dutifully to therapy, T1 is unsure about the type of work that can be done with him. During the sessions, he is rather passive and T1 has to make a lot of effort to get any detail of his personal history out of him. As far as he is concerned, P1 thinks that there is not much point in him coming to therapy, if his wife does not come too. He would rather do couple's therapy to "save his marriage." T1 expresses her doubts to P1: "Actually, I don't know what can be done with this gentleman." In particular, the process seems stalled by the fact that P1 can no longer benefit from the free therapy sessions, but T1 does not know how and when to introduce the idea that he should switch to the paid sessions. T1 has even asked for the advice of the clinical director of the center, who has encouraged her to make the transition to the paid treatment. To facilitate this transition, T1 has been considering reading out loud to P1 the few lines of the official agreement between the treatment center and the police where the maximum number of free sessions is stipulated.

Halfway through the supervision session, S1 intervenes for the first time by asking T1 why she says that she does not know what to do with P1. All the elements that she has

presented are oriented by the fact that this patient seems to hold on very much to certain objects, such as elements from his past (because T1 has to ask a lot of questions before P1 shares anything) or his shoulder bag. When another person, like his wife, becomes too demanding, he reacts with violence. T1 agrees with this analysis, but she points out that her confusion stems from the fact that her interventions seem to have little impact on P1: "The words of the other ... fall, that is, they make a hole in the water." For instance, T1 tried to explain to P1 that if he wants to be with his wife, if he does not want to separate, then "actually, in order to be together, you have to find a way to be a little more separate." But the patient just replies with "yes, yes, yes" to this kind of interventions. The "realest perception" that T1 has "when talking to P1" is that her words "don't write themselves anywhere."

S1 agrees with this account of the problem, and, very succinctly, offers a hypothesis: "Words do not have an effect, if they are of the order of an explanation, because he is not in the discourse." Here, S1 is implicitly making a reference to the Lacanian theory on psychosis, according to which the psychotic subject is positioned outside of the discourse (Lacan, 1973). With this comment, he is hinting at the fact that P1 might have a psychotic structure and therefore experiences difficulties to represent himself as a subject in a shared discourse. In line with this hypothesis, P1 would not need an other to provide him with an explanation, but rather an other "to intervene, to set a limit." This suggestion is also based on the idea that the psychotic subject lacks a capacity to refer to social conventions and to the law as a limiting principle (what is referred in Lacanian theory as the "name-of-the-father"). In a case like this, according to S1, it is only the *institution* in which T1 is working (i.e., the treatment center) that could provide such a limiting principle for P1.

S1 suggests to point out to P1 the seriousness of the situation and to put in place a strict rule about not being able to return in case of new violence. He also suggests that, if T1 introduces to P1 the need to switch to a paid treatment, then it is important that she does not give the impression that it is

her *personally*, rather than the institutional framework, to forbid him to have more free sessions. According to S1, P1 is unaware that the possession of objects is regulated by rules, and that one cannot just possess whatever one wants. P1 clings to any object that he considers to be his possession, but he should not be allowed to keep all his money with him, in his shoulder bag; rather, he should be invited to hand some of it over to the other. This symbolic passage could modify the patient's relation to his objects (shoulder bag, money, wife) and reduce the need to use violence. S1 suggests inviting P1 to take off the shoulder bag at the start of the session, and take it back at the end. In this way, he may start realizing that the bag is not just his private object, but an object within a social bond that can be talked about. The key question, for S1, is: "How can we get P1 to put that bag down?"

One week after the supervision session, the retrospective interview took place. Listening again to the recording of the session, S1 expressed his puzzlement about the way T1 had decided to start it. In particular, S1 did not understand why she was going into so many details about the institutional workings of the center that she worked in and about the agreement with the police:

I said to myself, "But why are you explaining all of this to me?". She is illustrating so much of the context ... I had this question mark ... [because] she knew well that *I know* what the [name of the treatment center] is ... And so I was wondering why, despite this, she went into details like this. Despite knowing that I knew the [name of the treatment center]. I know the [name of the treatment center], because I also work there.

Another thing that puzzled S1 was the fact that T1 had decided to present a case that was "so well developed." For S1, it was clear what direction had to be given to the cure. T1 had to "find a way to ensure that P1 switches to the treatment, that he does not remain in the precarious section where there is no payment." He did not understand, then, why T1 was saying that she did not know what work she could do with P1.

Later in the interview, S1 also noticed that T1 did not seem to be able to “pick up” his interventions. At a certain point during the supervision session, for instance, he had pointed out to T1 the temporal coincidence between the end of the cycle of free sessions and P1’s new episode of violence. His intervention had been framed in a rather explicit way:

But it’s peculiar, isn’t it? Because in November he is imprisoned, and ... if one makes a calculation ... the sessions had started at the end of June, if I understood correctly ... [then] he had completed the 3 months, as they had been announced. He, as it were, says, in a resounding way, basically, why he comes to the [name of the treatment center].

With this intervention, S1 was hoping to let T1 grasp that P1’s “passage to the act” was underpinned by the fact that P1 knew in some way that he struggled with setting a limit for himself. To be able to separate, explains S1 in the retrospective interview, “P1 has to act against the law, that is, there has to be someone else who takes him and brings him away.” Yet, T1 did not seem to make much of this intervention. “I tried to see if T1 could grasp this interpretation,” comments S1, “but she didn’t take it.”

This is the moment in the interview when S1 starts realizing that his interventions as a supervisor were not picked up by T1 in a similar way in which T1’s interventions as a therapist were making a “hole in the water” with P1:

I begin to grasp that ... I too felt held back by T1, with her attempts to make sense of what didn’t make sense. How can I say it, what can only be put in action, with an interpretation that says something, right?, within the device. Instead, T1 was holding me on a path in which she wanted to understand. She absolutely wanted to understand.

With this comment, S1 was expressing the idea that, just as T1 was attempting to provide explanations to P1, when all she should have done was to *act* by setting a limit to him, so, during the supervision session, S1 was taken by a desire to help T1 understand something, when all he should have done was to *act* by setting a limit to her:

Looking back, maybe I could have done an act. But perhaps the conditions under which this supervision was also built [i.e., the research study] ... did not allow me to get up and tell her, "Leave me here 70 euros for the control [i.e., supervision session] that we just did". After I had told her the thing about the bag. And that's it. Doing in the act what she should have done.

In line with Lacan's practice of the variable-length session, S1 here is suggesting that he should have "cut" the session with an act (i.e., the request for money), precisely on the point where T1 was hesitant (i.e., the issue of payment). In this context, such an act would have been particularly provocative, since there was an implicit agreement that the supervision session had not to be paid, occurring as it was between colleagues and for the purposes of a research study. That is why S1 thinks that it would have been an incisive way to reflect back to T1 the question: "What is it that makes you linger in making the switch to the treatment with this subject?".

For S1, T1's difficulty in "following the symbolic scansions" with P1 is due to the fact that this is a subject "who *cannot* do this, who is not in the symbolic." The only way would be to:

Make him *live*, make him experience that, in compliance with the law – in this case, the law of the [name of the treatment center] – he *can* be able not to act out in such a way that makes the law intervene. By putting him in prison, by limiting him directly.

With a case like this, according to S1, one "can only stick to precise limits." For "it is a matter of a psychosis, right?, this case. As far as I am concerned." And in a case of psychosis, "there is nothing to understand. That is, in the moment we try to understand, with a psychotic subject, basically, we are entering his delusion."

This is the first time that S1 explicitly used the term "psychosis," although he had been hinting at his diagnostic hypothesis since the supervision session, using such expressions as P1 being "outside of the discourse." At this point, the interviewer felt compelled to ask a question. If S1

had been hinting at the hypothesis of psychosis since the supervision session, then how come T1 had not picked it up and come to the same conclusion about the case? S1 replies by suggesting that T1 may not have fully grasped that it was a case of psychosis, and yet the way in which she managed the case reveals that she must have known the direction that had to be given to the cure. T1's clinical instinct to go talk to the clinical director, for instance, or her idea about reading out loud the few lines of the official agreement with the police – all of these clinical acts, according to S1, were ways in which T1 was drawn to use the devices of the institution *to evoke the law, the limit, the name-of-the-father, the symbolic register*, which is precisely what P1 was lacking.

The case discussion ended with a final question by the interviewer:

In the beginning, you commented on T1's opening [of the supervision session], by saying: "I had a question mark about why she dwelled so much on the institutional aspects, on the limit of the three months, on the context, instead of going directly into the case." And then, indeed, throughout the case, it seems that "[name of the treatment center]" was repeated over and over again ... I wanted to ask you: this question mark that you had at the beginning, did you manage to solve it in the end? What is your comment on this issue of the *context*, that seems to be so present in the discussion of this case?

S1 replies by suggesting that this might actually be the *point de capiton* of the whole case. "Point de capiton" is a term that is used in Lacanian psychoanalysis to indicate an anchoring point in the chain of signifiers (Lacan, 1993). S1 here is suggesting that the signifier constituted by the "name of the treatment center" was repeated so many times by both T1 and S1 (24 times in total, as revealed by the transcripts), because it constituted a pole of gravitation towards which the case discussion tended. This pole existed within the case *right from the start*, as revealed by the fact that T1 opened the supervision session by talking about the institution and its workings; but it could be appreciated as such only *at the end*,

now that the retrospective interview was coming to a close. According to S1, the insistence of the signifier of the center indicates that:

T1 was aware that an institution can function better to accommodate a subject like this, because it can put much more into play the devices that regulate the institution itself ... she was aware of that, and yet, it is as if she said, "I was at the [name of the treatment center], I had those rules at my disposal ... [but] I did not use them well."

But indeed, for S1, "all this emerges because for her it was already present". "She came to feel that she could do what she already knew that she was doing." In some sense, T1 knew from the start what she had to do: she only came into supervision "to have the authorization to do" it.

2.2 The nebulous case

The second case concerns a man in his 40s. T2 started to see him in the fall of 2020. P2 is a musician. "He does all these jobs, you know, a lot at the computer, electronic, I mean, from what I can understand," says T2. P2 came to therapy to deal with certain "issues" that have been causing him difficulties and that he has been dragging for a long time. He is from a small town, but moved to the city where he is seeing T2 when he was 18. After getting his diploma, he met a man who said he was a manager and offered him to join an artistic "factory," where artists lived together and collaborated on music projects. "Without knowing more about it," says T2, P2 joined the community. He lived there, together with a band and a female singer, for 10 years.

However, "nothing concrete" ever came out of it, in terms of professional opportunities. Over the years, as people started to leave the factory, P2 also thought about getting out of there. But P2 was now 30, having to start all over and with little financial support from his parents. Around this period, P2 met a man who owned a music school and was offered by him to give guitar lessons there. At the same time, P2 started to put himself on the market as a producer. This is an

important aspiration of his, to be able to produce the music of other artists. For instance, one night, at a karaoke contest, P2 met a singer. He "was not a real singer," says T2, "he just sang." But P2 invited him to start a band, and in the summer of 2019 they did a little tour of jazz clubs together. However, P2 soon realized that he was doing all of the work, while his partner was "just singing." According to T2, P2 tends to put himself in the position of "the producer, the manager of the other." But "an other who is a bit outcast," and whose talent is not always so clear.

Besides work-related problems, P2 also came to therapy because of a romantic relationship that had ended about a year before contacting T2. P2 met this girl in the bar in front of the place where he lives. But "almost immediately," says T2, the relationship turned out to be "problematic." P2 describes the girl as "very possessive, very insecure." She reproached him a lot for not being present. P2 tried to explain to her that he had to be away for work, between gigs and the recording studio, but she was not willing to "listen to reason." So, after a small pause for reflection in the summer of 2019, P2 decided to interrupt the relationship.

T2 noticed that this relationship had started at a "particular" moment in P2's life. Just a few months prior, in fact, P2's mother had left her hometown and moved to the city to look for a job. Yet, instead of looking for an apartment, she had "gone to live in his house, with him." Speaking of her mother, P2 describes her as "very fragile" and very much under the thumb of her own mother. P2's maternal grandmother, explains T2, has always been a "looming" figure in their family life, which is part of the reason why P2's parents eventually separated. Before the separation, they used to live in an apartment that was on the same landing as his grandmother's. Between the two apartments, "it was not clear where one began and the other ended." Whenever P2 used to call his mother on the phone, he would always hear his grandmother speaking over her. Having had enough of the situation, P2's mother decided to get away by moving in with P2. But T2 suspects that this forced cohabitation with his mother might have been the reason why P2 started a

relationship with the girl “next door.” “Like an attempt to separate,” chimes in S2.

Another detail from childhood that P2 reports in therapy is that, when his parents were still together, his father was away most of the week for work, but he would be back in the weekends. P2 cherishes the memories of those weekends when his father used to go to the piano and sing, “collecting” in this way all the family and even some of the neighbors. These coral moments, which were made possible “through music,” were “the only times when the family was brought together,” says T2. S2 notices a parallel between P2’s father who used to “collect” people through music, P2 who “collects” outcasts such as the singer from the karaoke, and figures such as the manager or the owner of the music school who “collect” artists for their music projects.

One of the first things to manifest in the sessions with P2 is his delay. “I give him an appointment at a certain hour,” says T2, “and he arrives punctually late.” When T2 pointed this out to him, P2 said: “I am sorry, I’ve always been like this.” Since he was a child, his father would scold him for being “too slow” and “always late.” T2 says that she usually reserves a 45-minute session for P2, but he arrives “when we only have 20-30 minutes left.” At the same time, however, P2 is someone who talks a lot. Thus, T2 often finds herself forced to interrupt the session while P2 is still talking, since the next patient is at the door. To address this problem, T2 suggested that P2 comes twice a week. This seems to work better. “In the sense that he keeps arriving late,” explains T2, but “this seems to force him more to get a little bit to the point; because otherwise, he gets lost” and his speech risks becoming a bit like “chatter.” Making a link with what was said before, S2 wonders whether the outcasts that P2 collects for his music projects are not a mirror image of himself as the “slow one” or the “latecomer,” as his father used to describe him.

Despite the issue of delay, T2 thinks that P2 has genuinely put himself to work in therapy. According to her, P2 is someone who feels very much “called upon” by the word of the other and who, for years, has been keeping a position

where he just “stays there” and is made a bit into an “object” of the other. This “mortified” position, where he risks being “nullified” or “crushed” by the other, is evidenced, for instance, by the relationship to his girlfriend, to his parents, or to the artists that he works for as a producer. Yet, T2 noticed how, quite soon in the course of therapy, P2 has started to separate himself from certain bonds of this kind – for instance, by interrupting the professional relationship with the singer from the karaoke. “As if he was really looking for a reference to separate himself from something... erm, *neurotically*,” says T2.

With the COVID-19 pandemic, opportunities for artists were limited, making P2’s financial situation precarious. P2 accepted a few odd jobs, but T2 suggested that, if he has a “desire to make a living from music,” then they better “put a bit of order” in his work life. T2 and P2 thus started analyzing his professional relations. Typically, these are relations in which P2 works very hard, but where the fruits of his labor are “slow” to come. T2 asked P2 whether, when he plays at weddings or other events, there is “anything is writing.” But P2 usually does everything “on a handshake.” T2 thus invited P2 to consider the possibility of drafting a contract to safeguard himself, and made herself available to read it and give him feedback. P2 did send the contract to T2, but he also consulted a lawyer on his own. T2 found this to be “important,” realizing that she has to be careful with this type of interventions. If P2 is someone who feels “called upon” by the other, then “it is not that in the transference this can’t happen as well.” T2 here is suggesting that, if she is too “looming” in the relationship with P2, then he may start to feel “crushed” by her as well. Consequently, he may end up separating from her by using an other as reference (in this case, the lawyer), just as he has been using T2 as reference to separate from others who oppress him.

Despite his financial difficulties, P2 has always paid “punctually,” even though T2 is asking him an amount which is “not little.” Only in the last month, P2 has had some delay in the payment of the sessions. The day before the supervision session, P2 told T2: “I am waiting for the

beginning of the month to receive the salary from the music school, and look, everything that comes, I put it here." On this point, S2 intervenes by asking whether the delay may not be for P2 a way to separate, "so that the other does not loom too much." This intervention precipitates an insight in T2: "Now that you tell me this, I make a link that I did not make before. These last sessions, which he did not pay... he arrived on time." T2 is very surprised by her own insight. "Precisely now that he is in debt... he can arrive on time." On this point, they conclude the supervision session.

One week later, the retrospective interview took place. S2 begins by revealing some questions that had been forming in his mind, but which he had not shared with T2. In particular, since the beginning of the supervision session, S2 was struck by the fact that, although the case was being told with "many details," he could not really understand what P2's *question* was. P2 was coming to therapy for some long-standing "issues," but what were these, exactly? "Until the end of the supervision session, it was not very clear to me," he says. Halfway through the session, S2 had tried asking T2, "But in your opinion, his question, what is it?". But T2 had replied elusively. Noticing that at his solicitation "the speech continued to add only details," S2 decided not to ask a second time, thinking that maybe the question had yet to "take shape ... *in the therapist*." S2 also considered that the lack of a clear question might have been due to the artificial conditions under which the case was being discussed: namely, the fact that the request for a supervision session "had occurred on the basis of experimental conditions." Whatever the reason, S2 decided not to press T2, although this questioning accompanied him throughout the session.

In particular, S2's questioning took the form of a series of dilemmas. For instance, when T2 told him how P2 had accepted the manager's offer to join the factory, S2 remembers having been surprised by the fact that P2 would leave everything to follow this man and "go live in a sort of commune," and for so no less than 10 years. S2 was asking himself:

But this subject, is he one who goes after someone, or rather one who has something that orients him? ... Is this subject dragged by the other, or does he have projects of his own? ... Is he someone who has a direction, I mean, is he oriented by something, by a desire of his own, or, actually, no? ... Is he someone who has a desire, but cannot sustain it ... or is he someone who actually is completely alienated on the other?

Similar dilemmas kept formulating in S2's mind as the clinical material unfolded. Apropos of different elements, S2 kept trying to bring into focus where P2 *stood*. "This is the red thread without answer," S2 explains in the interview. S2 had tried to get a clearer picture by asking for specific details. For instance, when T2 was telling about the factory, S2 asked whether P2 was earning any money during the 10 years he spent there. This question, as S2 explains in the retrospective interview, was intended to verify "whether there was at stake a *passion* for this person," or whether it was "because actually he did not know where to go and, well, he just stayed there." Yet, once again, T2's response was elusive ("Well, he did not earn... he earned, but little"), so that, in the end, S2 was left with his doubts. "I must say, I didn't really understand."

S2 kept listening intently, "waiting to see if, in the flow of speech, there could emerge more elements that would make me say, 'ah yes, this is the subjective point of the person'". But ultimately this point "did not emerge" for him:

I was waiting to feel some point of subjectivity, which I didn't feel. But now, I can say- I didn't think it at that time, but I can say it now, that maybe, actually, it was a time of the work in which ... something of the subjectivity of that person had not emerged yet. I mean, maybe *that was the answer*.

With this comment, S2 started to shift his conceptualization of the case. With this shift, the lack of a clear question was not attributed anymore to the fact that T2 had not yet identified it, or to the experimental conditions under which the case was being discussed. Rather, S2 started

to formulate the hypothesis that the question had not yet formulated itself *in P2 himself*:

It seems that maybe, how can I say, *it is the case itself, for its somewhat evanescence* ... that did not allow so much, probably- I say this now, that there would emerge some elements of subjectivity ... It was as if I was telling myself, "how much is borne by T2, and how much is borne by the case itself?".

According to this new hypothesis, if a question was lacking from T2's case discussion, maybe it was because "T2 was keeping the time" of P2, and indeed, this "is a time of evanescence, so far." "Maybe the evanescence of the case" is "not only borne by the person who is exposing it to me," explains S2, but it is due to the fact that P2 "probably is a person like that," that is, an *evanescent* person. And this might have been the reason why S2 could not solve his dilemmas:

I realized that indeed I could not authorize myself to decide, from the words that T2 would tell me in the supervision session, [whether] this subject is certainly more on this side, rather than on that side. I mean, the evanescence, it circulated also *for me*.

S2's new hypothesis is that "there's something of an evanescence that does not pass into the word, in this case, at various levels." This hypothesis is formulated by S2 "in this moment, as I think back on it." At the time of the supervision session, the case simply "was not being built" for S2, he admits. It remained evanescent in the sense that it was not taking "form" in his mind.

S2 had just formulated this new hypothesis, when a significant event took place at minute 35 of the retrospective interview. As S2 and the interviewer clicked on play to continue listening to the recording of the supervision session, they were both caught off guard hearing T2 going on to say: "to this day, something remains *nebulous* to me, and also in his story, I mean, this time that he spends there [in the factory]"; and then, shortly after, "this sentimental relationship where – there too, the story, how can I say, erm,

remains a little *nebulous*." As soon as S2 heard the first "nebulous," he stopped the recording and commented:

There, it seems important to me. I used the word "evanescent." But, actually, also for T2, there appears the "nebulous." At this point in the session ... she says that there's something nebulous. There.

This repetition of the word "nebulous" by T2 had taken place at the very beginning of the case conceptualization process, since the recording of the supervision session was stopped here at minute five. But this repetition had escaped the attention of the interviewer (despite having transcribed the recording of the supervision session *ad verbatim*), and it had escaped T2's attention (despite having been physically present during the session). Yet, this repetition was taking on a special meaning now, in light of the metaphor that S2 had been developing on his own account, the *evanescence*. These two metaphors ("evanescence" and "nebulosity") appeared to converge on the same idea, namely, that *there was something in the case that resisted taking form*. This convergence left both S2 and the interviewer disconcerted. "It surprises me! Listening to it now," said S2. "It is another supervision session, this one, isn't it?".

This significant event gave a new thrust to S2's conceptualization of the case. If, at the time of the supervision session, S2 was simply "left with the nebulosity," now he realized that it might have been P2 who *is* "a *nebulous one*." Maybe that lack of a "a clear limit," which emerged at various places in the case – for instance, in the image of the two apartments on the same landing without any boundary between them – maybe that "*is him*," suggests S2 now.

This is the moment in the interview when S2 formulated a diagnostic hypothesis of ordinary psychosis. This hypothesis became explicit for him only now: "I say that here with you because it becomes clear to me in this moment." In Lacanian psychoanalysis, an ordinarily psychotic subject is one who may not present hallucinations or delusions, but whose mental state is precariously compensated (Miller, 2009). This results in an impression of accentuated "normality," as if the person lacked subjectivity. "Nebulous", explains S2, "is just

another way of saying 'ordinary'. If S2 could not find a "subjective point" in P2, then maybe it is because there was not one. Re-appraising the clinical material in this new light, S2 suggests that P2 may not be someone who is *avoiding* a question (as a neurotic patient would), but for whom a "question does not formulate itself"; not someone who makes himself into the object of the other because he enjoys it, but because he "is" a bit like an object; not someone who is late because he wants "to make himself desired" or "be missed by the other," but because he is "victim of the delay," that is, he is "a person who *is* late."

The delay might thus be a way for P2 to separate from the therapist, but in the sense that the 45-min session, for someone like P2, might be "too much." In a session, in fact, "one pushes to remove a bit of *nebulosity*"; but that may push P2 towards something "unsustainable." Maybe, for someone like P2, it is preferable "to remain nebulous." In this sense, the second weekly session proposed by T2 might work better not because it adds something (two sessions instead of one), but paradoxically because "it divides something." That "two" is not a way of "stepping up the game"; on the contrary, it is a way of delaying "the *encounter* with something." And that might also be why P2 is able to arrive on time, now that he is in debt. Because "if he *pokes a hole* the other," that is, "if he doesn't pay," then "he depowers the other a bit ... and this allows him to stay, because by poking a hole in the other, he does not feel all of its loomingness," suggests S2. P2 can arrive on time now because he has subtracted something from an other who "looms" by wanting "too much" (for instance, all the money that he earns at the music school). According to S2, P2 may be in therapy in the first place not so much out of a "question of analysis," but precisely to shelter himself from an other who is too looming. Just as he sought refuge from his mother by starting a relationship with the girl, so, when the girlfriend became too looming, he sought refuge in T2. That is why T2 must not become too looming herself ("she must not want too much"). What P2 needs is someone who "acts a bit like a screen" to help him separate. Like a "companion."

S2's newly-arrived diagnostic hypothesis is at odds with the one that T2 had formulated during the supervision session. When T2 was talking about the progress made by P2 in therapy, she had said: "As if he were really looking for a reference to separate himself from something... erm, *neurotically*." With this passing comment, T2 was implicitly sharing with S2 her diagnostic hypothesis of obsessional neurosis. Yet, already at the time, S2 remembers having been surprised. "I must say, at the time when it is said 'neurotically', I was a little taken aback," S2 explains in the interview. "I would not be so sure about that," he had told himself. Yet, S2 had decided not to turn the supervision session into a "dispute" over diagnosis, since he had felt that, notwithstanding T2 use of the term "neurotically," she was managing the cure in a way that revealed an understanding of the way P2 *functioned* as a subject. That is, at a deeper level, S2 and T2 were in "agreement" about the way that P2 "moves." Even if "in her word" T2 was pushing in a certain direction, "in her acts" – according to S2 – she was going in another.

For instance, when T2 suggested that P2 comes twice a week, "maybe, somewhere, she felt that it was necessary to dilute something, with this person," suggests S2. Or when she introduced the issue of the contract, was T2 not going "in the direction of *regulating* symbolically something of this subject," by making "reference to a third, in any case, to a law," as if she knew, in some way, that for P2 "the symbolic resources either are few or he does not put them in operation"? T2 also said that she reserved a "45-min session" for P2. But "therefore," says S2, "it is not that she contemplates the cut, the surprise, the displacement, for this subject" (as one would with a neurotic patient); rather, she builds a "ritual in which he can *construct* himself, not deconstruct" (as one would with a psychotic one). The work that she is doing with P2 is more like putting some "tiles" to build a "floor": not so much deciphering his unconscious, but "accompanying him."

According to S2, T2's implicit knowledge of P2's structure is further revealed by another element that she

reported during the supervision session. Recently, P2 has been experiencing some “phenomena in his body,” such as fever or stomach problems. These phenomena are ephemeral, in the sense that they last the evening after the session with T2, but P2 is fine the next morning. It is P2 himself who has made a link between the analytic sessions and this “turmoil” in his body. But S2 notes how, here too, T2 did not even attempt to interpret the meaning of these symptoms. “Maybe because she has understood that there was nothing to interpret, there,” S2 suggests. Rather, T2 seems to have registered them as a form of feedback, as if P2 had told T2, as his “companion”: “Look, there is something that, in our bond, has some effects that upset my body’. So, as if to say: ‘Let’s go easy’”. For S2, this further supports the idea that “the way T2 moves” reveals that “these points, somewhere, she must have them well in mind.” Despite her use of the label “neurosis,” she does not push P2 to bring out the “unconscious desire” that guides him. Rather, she moves with “caution,” not to thin out the nebulousness, but to preserve it to some degree. “It is as if the therapist, without knowing it, *knows it*,” says S2.

3. Discussion

We have used two examples to illustrate how the logic of the case can emerge and be made conscious in the process of case conceptualization by the reflective agents involved. Importantly, what we call the “logic of the case” is not the same as diagnosis. Although P1 and P2 were both diagnosed as psychotic, for instance, the logic was different and unique to each case. In the shoulder bag case, the logic was identified by S1 in the fact that *a limit had to be set for P1 with an act, carried out not by someone as a person but as a representative of the law*. In the nebulous case, the logic was identified by S2 in the fact that *an encounter with something unbearable had to be delayed by preserving P2’s evanescence to some degree, instead of wanting to thin it out*.

Through the reflective rounds, we can see the movement described by Symington (1996) from a knowledge

that is “unconsciously possessed” to one that is finally “consciously possessed.” In some sense, in fact, it could be said that the logic of the case was already known *by the patients themselves*. For instance, as pointed out by S1, when P1 committed the passage to the act that brought him to prison at the end of the 3 months, it is as if he “knew” that he needed the police – as a representative of the law – to set a limit for him, since he was incapable of setting it for himself. Similarly, by remaining 10 years in the factory, P2 knew that he had to delay certain steps in life. During the sessions, he was able to realize that he had stayed there too long; “however,” comments T2, “there was something that is not clear even to him which did not allow him to do otherwise.” Thus, it is as if the knowledge of the logic of the case existed in an *opaque* form in the first reflective round (therapy session), although all “in act” and none “in thought.” As if it became *clearer* in the second round (supervision session), where it began to exist “in thought,” although it was still predominantly “in act.” And as if it became *self-transparent* in the third round (retrospective interview), where it could finally exist “in thought” as such.

And yet, this becoming self-transparent of the logic of the case could not have occurred without all of the previous reflective rounds. S1, for instance, would not have been able to get any insight into P1’s relation to his objects, had T1 not brought to supervision the observation that P1 was coming to therapy always dressed in the same way. In this sense, the vantage point of a supervisor is not that they possess superior mental skills, but that they sit downstream, as it were, in a dialectical process (cf. Canestri, 1999, p. 187). This process works a bit like the game of “Chinese whispers,” except that, through these transmissions, the signal is not distorted, but *produced*.

Furthermore, the supervisors, as the subjects who became aware of the logic of the case in our two examples, cannot be said in any sense to be the *makers* of that logic. Rather, the logic is something that they point to, but which “survives” even them. For instance, S2 became aware of the fact that *the case itself might have been nebulous*, and he

adduced as evidence elements of the case material such as the landing where it was unclear “where one apartment ended and the other began.” Yet, now that the logic of the case has emerged, as it were, one may recognize as part of that logic other elements of the clinical material, which were not recognized by S2 as such: for instance, T2’s very first words, by which she described P2 as someone who “does all these jobs, you know, a lot at the computer, electronic, I mean, from what I can understand,” or her way of describing the factory as a place where people came and went and from which “nothing concrete” ever came out. In this sense, the nebulousness of the case is not something that S2 “made,” but that he simply pointed at and in which everybody – him included – were immersed.

We have identified this moment, in which the logic of the case is finally pointed at and named, as the *purpose* of case conceptualization in psychoanalysis. But for this purpose to be realized, certain conditions seem to be necessary. Building on Hegel’s doctrine of the cunning of reason, we identify five such conditions: time, immersion, passion, opposition, and reflection.

3.1 Time

We have said that, for Hegel, the idea of reason does not exist immediately, but produces itself in and through time. “The idea is essentially a *process*” (Hegel, 1830/2010b, § 215, p. 286) and, as such, it needs to be given time to realize itself in the course of historical development. Temporality is thus an essential condition in Hegel’s doctrine of the cunning of reason. However, as noted by Mays (1975), Hegel does not think of “time” as an empty container in which things pass. Rather, for Hegel, time cannot be abstracted from the process by which things become, change, or transform, for *time itself is that process*.

Similarly, in the practice of psychoanalysis, for the logic of the case to emerge and become intelligible to reflective agents, it must be given time to produce itself. In practical terms, this means that reflective agents have to wait and be

patient because, as noted by Symington (1996), the process of case conceptualization “takes a long time. It may take months or years” (p. 30). However, in line with Hegel’s doctrine, the “time” that is needed for the logic of the case to unfold is not the mere passing of the hours, but the very process by which the case material is worked through. To use an analogy, when one is at the theatre and there is an interval between the first and second act, during that interval the unfolding of the plot is suspended. It does not matter whether the interval lasts 15 minutes or 2 hours: the plot will not progress until the actors are back on stage. Similarly, for the conceptualization of a case to unfold, chronological time per se is not sufficient. In our study, for instance, a week passed between the supervision session and the retrospective interview. During this “interval,” no progress was made in the process of case conceptualization, and if the interval had lasted a month instead, the supervisors would still have picked up their conceptualization from where they had left it. In this sense, the time that is needed is not chronological time, but rather a “dramatic time,” in the etymological sense of *a time of action*.

3.2 Immersion

We have said that, for Hegel, human beings are immersed in history as fish are in the sea. Being immersed in history is, on the one hand, what prevents them from knowing its logic. But on the other, it is what makes them the ideal means to realize that logic unconsciously. The logic of history, in fact, cannot realize itself without the historical agents, for it is *immanent* in their acts (it does not exist anywhere but there).

Similarly, in the process of case conceptualization, for the logic of the case to emerge, reflective agents must be immersed in the case. Being immersed in the case is what prevents reflective agents from seeing its logic, but it is also what allows them to make that logic emerge unconsciously through *their own words or acts*. In the shoulder bag case, for instance, it was the repetition of the name of the

treatment center by T1 and S1 that catalyzed the insight into the logic of the case at the end of the retrospective interview; in the nebulous case, it was the convergent use of the words “evanescent” and “nebulous” by T2 and S2. Similarly, as far as clinical acts are concerned, in the shoulder bag case, it was T1’s seeking the advice of the clinical director or her contemplating to read out loud the agreement with the police that made S1 realize that a principle of limitation was being evoked. In the nebulous case, it was T2’s diluting the weekly sessions or her refraining from interpreting the phenomena in the body that made S2 realize that the encounter with something unbearable was being delayed. In both examples, for the logic to emerge through the reflective agents, they had to become “imbued” with the case. But if all reflective agents were completely immersed in the logic of the case, then, just as fish, they could never make the sea into their object. Thus, typically *reflective agents are immersed in the case to different degrees*: the patient more than the therapist (as in the first round); the therapist more than the supervisor (second round); and the supervisor more than the interviewer (third round).

3.3 Passion

We have said that, for Hegel, the medium through which the logic of history is able to enslave historical agents as its means is *passion*. Passion works as the engine for history because it drives the historical agent to place “the whole vital interest of its mind, talent, character, enjoyment in *one* content” (Hegel, 1830/2007, § 474, p. 211). In the case of historical agents, as noted, this content is characteristically the attainment of fame or self-aggrandizement.

Similarly, for the logic of the case to be unwittingly realized by reflective agents, they must be driven by a passion. Except that the passion that drives reflective agents is not one for fame or self-aggrandizement, but rather a *passion for understanding* or knowledge. In both cases, passion can be described as a “Quest for Mastery” (Tucker,

1956, p. 270). But in one case, it is the mastery of a territory or position; in the other, the mastery of the clinical material. In our case examples, for instance, as pointed out by S1, T1 “wanted to understand. She absolutely wanted to understand.” But S1, too, was “there trying to understand *why* is T1 bringing to me a case that is so well oriented in its development,” or why is she going into so many details about the institutional context. Similarly, at the time of the supervision session, T2 was trying to decipher something of P2’s nebulosity. But S2, too, was trying to unravel his dilemmas: Is music “a passion” for P2 or just “a crutch”? Is the girlfriend “of the order of desire” or to “shelter himself from the mother”? Without this passionate questioning, the process of case conceptualization could not unfold. But this quest for understanding can take more than one form. It can be a desire for *analytic understanding*, as the one that was driving the analysts in our research study. Or it can be a desire for *scientific understanding*, as the one that was driving us as researchers in conducting the study. In this larger sense, as noted by Blass (2006), psychoanalysis and scientific research can be said to be driven by the same passionate desire for knowledge (*Wissbegierde*, p. 1260).

3.4 Opposition

We have said that, for Hegel, opposition is the necessary (albeit illusory) moment through which the totality can realize itself. The first “opponent” is, in a sense, nature, which historical agents contradict with their labour. But then opponents are also historical agents for one another. Without an adversary against which to affirm their passion for self-aggrandizement, world-historical individuals could not *make* history. For the universal idea to emerge, the “particular interests” must “contend with one another” (Hegel, 1837/1975, p. 89).

Similarly, for the logic of the case to emerge, reflective agents must contend with the clinical material, but also with one another. Except that the opposition in their case takes the form not of an actual conflict or struggle [*Kampf*], but of

a *dialogue* – that is, a contention of views or perspectives. As noted by Symington (1996), the unconsciously-possessed knowledge can be made conscious only through a “conversation” (p. 24). If the process took place as a monologue (as in self-analysis or self-supervision), then it could be carried only up to a certain point. Beyond that point, an other is needed with whom to “argue.” In the shoulder bag case, for instance, T1 told S1 that she did not know what to do with P1; S1 asked why, when the direction of the case was so clear; T1 replied that she had the impression that her words were not getting written anywhere; S1 suggested that this might have been so because P1 was not in the discourse – and so on. Through these dialectical exchanges, something in the case was spelt out. This something is the logic of the case, and can be described also as the *unity that is presupposed by all of these oppositions*. In the nebulous case, for instance, T2 and S2 were opposite each other with their diagnostic hypotheses (neurosis and psychosis). And yet, S2 was able to conclude that, beyond this apparent opposition, at a deeper level, T2 and himself were in “agreement” about the case. This deeper level, which *lies beyond oppositions but can only be spelt out through opposition*, is the logic of the case.

3.5 Reflection

We have said that, for Hegel, historical agents can become aware of the logic of history through a retrospective movement. In this movement, historical agents see the objective purposes that were being realized in the pursuit of subjective ones, such as fame or self-aggrandizement. Hegel’s doctrine of the cunning of reason posits that this movement can only happen a posteriori, as “the owl of Minerva begins its flight only with the falling of dusk” (Hegel, 1820/2008, p. 16); and that, while it is irrelevant whether the movement occurs in this historical agent or in another, the purpose of the whole process is for it to occur.

Similarly, reflective agents can become aware of the logic of the case only retrospectively. By looking back on the

material that unfolded, they can realize how – in the pursuit of their passion for understanding – they have been at the same time contributing to realize the logic of the case. For instance, during the supervision session, S1 tried to make T1 grasp the temporal coincidence between the end of the free sessions and P1's new episode of partner violence, but felt that T1 was not making much of his intervention. Only during the retrospective interview – that is, *after the fact* – could S1 realize that, by intervening in that way, he was reproducing something in the case, by which explanations made "a hole in the water," and an act would have been needed instead. This realization occurred in S1, but – in line with Hegel's doctrine – it could have occurred in someone else (for instance, T1). In this sense, it does not matter who has the insight into the logic of the case, as long as the insight occurs. This point was well illustrated by a comment from S2 during the retrospective interview. T2 had just realized that P2 was arriving on time, now that he was in debt, when the interviewer pointed out that this insight had been precipitated by one of S2's interventions. But S2 replied: "Yes but, how can I say- I thought it was important that she realized that. *Who cares*, if I can say so, about the why, the how. But she realized that."

4. Conclusions

Becoming aware of the cunning of reason may be compared to re-watching a murder mystery movie and being able to see the clues that were being disseminated from the beginning. In light of the finale, one sees how every seemingly contingent element was part of a logical development. But if, in a movie, the cunning figure who orchestrates this logical development is the director, then *who may be said to be the "director" of a clinical case?* It cannot be the patient, for the patient comes to therapy lacking precisely any "director's view" on their life. Nor can it be the analysts for, as our case examples revealed, they were as surprised by the emergence of the logic of the case as the researcher who interviewed them. But if none of the reflective

agents is the director of the case, then we have to conclude that, in a sense, *the case is its own director*.

Prevailing approaches to case conceptualization – whether from a positivistic or a constructivist point of view – present it as the process by which reflective agents “formulate” or “construct” the case, as if the case was an object that is demiurgically molded in their hands. Accordingly, a lot of importance is placed on *who* the reflective agents are (e.g., their level of knowledge, their backgrounds). In light of Hegel’s doctrine of the cunning of reason, we have proposed an alternative view, according to which reflective agents have a more passive role. As long as they operate within the conditions above, then they are actually “replaceable”; like actors who are being cast for a role, their identities matter less than the part that they are there to play. To be sure, it may be “difficult for an analyst to be the servant of the process instead of its master,” for it means renouncing to a position of power; but maybe “the psychoanalytic process demands just this of us” (Symington, 1996, p. 30-31). In sum, from this Hegelian perspective, reflective agents may be seen as the “means” through which a clinical case conceptualizes itself.

At this point, however, a few caveats are in order. The first one is that we have arrived at our conclusion by way of an *analogy* between the process of world history, as understood by Hegel, and the process of case conceptualization, as it takes place in psychoanalysis. Every analogy, however, is bound to have its limits. To mention only one of these, for example, we have suggested that reflective agents might be “replaceable” for the purposes of case conceptualization, just as historical agents are for historical purposes. Yet, it might be objected that at least one reflective agent cannot be replaced: the patient. The patient, in fact, is the one who brings the case and, in some sense, “is” the case. Examples like this show the limits of our analogy. Yet, at the same time, it is interesting to note how there is another sense in which not even the patient may be said to “be” the case. First, because s/he is not the maker of its logic; and second, because the logic can only be spelt out in the opposition

between reflective agents (e.g., in the dialogue with the therapist). From this perspective, to paraphrase Freud, not even the patient is master in his/her own case.

The second caveat is that, through our analogy, we have inherited some ambiguities that exist in *Hegel's doctrine*. An example is the ambiguity relative to the "agency" of the idea. At times, Hegel is willing to talk of the idea as if it was a transcendental subject, with a theological echo. But this is what Hegel "would call *Vorstellung*, 'picture-thinking'", which is "only a symbolic version of the truth" (Parkinson, 1989, p. 288). At a more philosophical level, for Hegel the idea is not "a character in a drama, who makes use of simple people to achieve his own ends": it is not a force that influences the agents from outside, but rather *is* the totality of their acts and the logic that emerges from them (p. 287). Since this ambiguity already exists in Hegel, we decided not to dispel it in our account, but to preserve it to some degree. Hence, we talk of the logic of the case as "making use" of reflective agents; yet, at the same time, we conceptualize it as nothing other than the unity behind all oppositions. This characterization of ours is consistent also with the kind of *causality* that is at stake here. Previously, in fact, we have qualified the idea as an "unmoved mover" of the process. With this Aristotelian expression, we implicitly suggested that the idea is the *cause* of the process. But to remain within Aristotelian categories – to which Hegel is deeply indebted – the idea (or the logic of the case) would not be the *efficient* cause, but the *final* cause: not that which *drives* the agents to act in a certain way (as the *passions* may be said to do), but that which *draws* them, i.e., the *telos* towards which their actions tend (cf. Çaksu, 2007).

The final caveat regards the question of *freedom*. We have just noted how the idea, as a final cause, is not a force moving agents like pawns on a chessboard, determining their every act. But in this respect, we wish to clarify more generally how qualifying the reflective agents as "means" does not mean devaluing them or denying their ethical status as free and autonomous subjects who are responsible for their acts. Rather, it only means that, in light of Hegel's

distinction between subjective/contingent and objective/necessary purposes, we may differentiate between two kinds of acts: those that the reflective agents carry out *as particular individuals*, insofar as they are of no consequence to the logic of the case; and those acts that they carry out as “instruments” insofar as, through them, the agents are unwittingly bringing out a logic that is intrinsic to the case and which is not their making. The reflective agents are not *necessitated* to carry out the latter kind of acts – they remain free not to. However, to the extent that we have identified the objective purpose of case conceptualization in psychoanalysis as the emergence and becoming self-conscious of the logic of the case, then it is only through the latter kind of acts that this purpose can be realized by reflective agents.

Several directions open up for further research. These include (a) a reflection on the implications of the five proposed conditions for training and research in psychoanalysis; (b) an exploration of how the emergence of the logic of the case takes place in the work with other kinds of clinical presentations (e.g., neurosis instead of psychosis) and theoretical orientations (e.g., Jungian instead of Lacanian analysis); (c) an analogy between other aspects of Hegel’s philosophy and the understanding of the analytic process, such as the idea of an “end of history” and the problem of the end of analysis; and (d) a comparison, ideally grounded on clinical material, between this Hegelian account of case conceptualization and alternative epistemological accounts, especially those that put greater emphasis on the “co-construction” of the analytic reality in the dialogue between reflective agents, as opposed to the emergence of a logic intrinsic to the case.

General discussion

To use Bion's language, any piece of knowledge partly "saturates" our preconceptions, partly leaves them unsaturated. Similarly, the chapters of this thesis provide some answers to our question about the analytic logic of discovery, but also allow more questions to be formulated. Hereafter, we are going to structure the general discussion around three fundamental questions that emerge from the thesis as a whole: (i) *What is specific about psychoanalytic thinking?* (ii) *Is it a good idea to make the implicit explicit?* (iii) *What are analytic therapists thinking about?*

1. What is specific about psychoanalytic thinking?

Having reviewed the evidence for the effectiveness of various psychoanalytically-oriented therapies, Sandell (2012) wondered whether, in "view of such vast heterogeneity," psychoanalysis can be considered a "method at all" (p. 392). The answer he gives to this question is worth citing in full:

Maybe one should consider psychoanalysis not as a method but as a process evolving between two persons in a fairly standardized and strict setting, where one of the persons, the psychoanalyst, thinks and acts as a 'process manager' on the basis of her or his familiarity with psychoanalytic thinking and writing. And, correspondingly, '*thinking psychoanalytically*' within the frames of a more or less standardized protocol *may be what distinguishes the psychoanalytically informed therapies* (p. 397-398, emphasis added).

In Chapter 3, we suggested that analytic therapy cannot be reduced to CR, for other significant processes are involved as well (e.g., working through). But even if Sandell was correct that thinking psychoanalytically is the ingredient that uniquely defines analytic therapy, the question remains: *What does it mean to "think psychoanalytically"?*

As noted, there is a widespread assumption that thinking psychoanalytically means applying analytic theories. As Stewart (2001) puts it, for instance, in his review of McWilliams' classic handbook on case conceptualization: "Psychoanalytic case formulation, in its customary sense, is the use of psychoanalytic theory to understand ... the data gathered in the initial contacts with a potential patient" (p. 202). However, as argued in Chapter 3, this is a "myth" that does not correspond to the nature of practice, but follows from the epistemological paradigm of technical rationality. In fact, saying that "thinking psychoanalytically" is what uniquely defines analytically-informed therapies, and also that it consists in applying analytic theories, is contradictory, insofar as the "vast heterogeneity" that Sandell (2012) refers to is primarily a heterogeneity of *theories*. In this thesis, we have suggested instead that "thinking psychoanalytically" means applying 12 a-theoretical conceptual and reflective skills: the operators. Our model, as developed in Chapter 1, is a model of the logic of discovery that is intended to be *specific* to analytic therapy, but *generic* with respect to the various analytic schools of thought. The operators are "a-theoretical" in the sense that they do not coincide with what the term "theory" is commonly used to indicate; and this can explain why they are found across analytic schools of thought.

However, at the same time, further theoretical work had led us to conclude that the operators are not used exclusively by analytic therapists, and that in fact they can be traced back to a time that predates analytic therapy itself (Chapter 4). This theoretical journey, thus, has brought us back to our question, in a sense leaving it answered and unanswered. The paradox with which we are confronted can be stated as follows: *If the operators are the skills that analytic therapists use in their logic of discovery, but at the same time these skills are not unique to analytic therapy, then what is so "specific" about analytic CR?* We suggest that the answer to this question lies in the interrelation between a series of factors which we are going to consider one by one.

1.1 Collection

A first way to answer the question is to suggest that the specificity of psychoanalytic CR lies not in any single operator *taken separately*, but in the particular collection of CR styles that the 12 operators represent, *taken together*. To illustrate, let us consider the case of a patient who consults for a case of “burn out.” As part of the anamnesis, the therapist learns that, during the patient’s childhood, his father committed suicide by setting himself on fire. Presented with this clinical material, an analytic therapist is likely to use their Symbolic operator to emphasize the double (literal and figurative) meaning of “burning out.” In contrast, a CBT therapist is less likely to use this operator in this way. Although they may be just as likely to use, for instance, the Formal operator to recognize certain patterns of behavior or thinking in the patient. *But the consequence to be drawn from this example is not that the defining trait of analytic CR lies in the Symbolic operator*, for this way of thinking cannot sustain the burden of exclusivity. If analytic therapists make abundant use of metaphors (Long & Lepper, 2008), this skill is far from being their monopoly. In fact, it is perfectly imaginable that a non-analytic therapist draws the same symbolic inference as the one in our example. Furthermore, the Symbolic operator cannot be pointed to as the “essence” of analytic CR, because the CR process of analytic therapists does not consist of symbolic operations alone, nor do these operations can be said to have any special standing in the chains of analytic CR. Thus, in our view, the specificity of analytic CR is not to be found at the level of any single operator (even the ones less likely to be used by non-analytic therapists), but of the whole *bundle of CR styles*. These CR styles can be picked apart in abstract; but in practice, they are used together. At the same time, however, this does not mean that all operators have to be used *at all times*, for the clinical material demands the use now of this, now of that operator. The operators are not like Odysseus’ 12 axe-heads that have to be shot through with one arrow, but like the 12 music notes, which make infinite compositions possible, but do not have to be played at once.

Our model is thus pluralistic, in the sense that it resists any *essentialist* definition of analytic CR. As noted in Chapter 1, while many have tried to reduce analytic CR to one or another of its facets, our model sees it as a multi-faceted phenomenon that is constituted by a whole *variety of skills*. This feature of our model can be compared to Wittgenstein's notion of family resemblance, and the idea that *the "essence" of a family is not found in any of its members*. Wittgenstein uses the image of a rope made of many fibres. One could pick out a fibre from the rope, only to find that "the strength of the thread does not reside in the fact that some one fibre runs through its whole length, but in the overlapping of many fibres" (Wittgenstein, 1953/2009, p. 36). Just as the essence of an operator is not found in any single function, for an operator, to say it with Plato, is an "εἶδος ποικιλώτατον, a highly multifarious class of things" (Halliwell, 2021, p. 45); so the essence of analytic CR is not found in any single operator. Analytic CR is like a mooring rope that is made of fibres which, when picked apart, are found to be themselves smaller ropes of some kind. As suggested in Chapter 1, analytic CR is a *function of functions* or, as we might also say, a *family of families*. Its perceived unity is a property emerging from a multi-layered plurality. This is also consistent with the idea that Bion's alpha-function is not any single function, but rather a "set of mental functions which *together* transform" the clinical material (Ogden, 2004, p. 859, emphasis added).

1.2 Purpose

A second factor to consider with regards to the specificity of analytic CR is the purpose to which the operators are put. To illustrate, let us consider the case of stand-up comedians. This is another class of professionals that appears to be using the operators on a regular basis. When stand-up comedian Luca Cupani, for instance, jokes about the official title *Democratic People's Republic of Korea*: "Why do they have to say that they are democratic? To be fair, also United Kingdom sounds suspicious," we recognize here the workings of the Investigative operator. Or when Ricky Gervais builds a

joke around the literal vs figurative meaning of the expression "punching down," we recognize the Symbolic operator. But comedians also routinely use the Dialectical operator in their "antonymic misinterpretations" (e.g., "The soup of the day implies the existence of a mysterious 'soup of the night'"), for example, or the Formal operator in the wild analogies that they establish between seemingly unrelated fields. If jokes resemble analytic interpretations, analytic interpretations often sound like jokes (e.g., sexual innuendos).

These parallels should not surprise in light of Freud's (1905) hypothesis that jokes are manifestations the unconscious. It may be that the mechanisms for the development of meaning are the same whether meaning is brought forth more or less "seriously." Yet, a key difference between analytic therapy and stand-up comedy lies in the *purpose* of these activities. The difference between, say, a self-referential (or meta) joke and a transference interpretation, despite their relying on the same Self-reflective operator, is that the comedian's utterance is intended to make people laugh; not so the therapist's. Rather, the interpretation has as its purpose the *growth* of the patient, in the sense of the "development of the personality" (Bion, 1965, p. 169). And that is why for Bion, the growth that is aimed at through saturation of unsaturated elements must be seen as closely related to the "conception of cure" that is *specific* to analytic therapy (p. 153).

Importantly, this purpose does not coincide with the mere accretion of "understanding." To illustrate, let us consider the use of operators by historians. When Ginzburg (1966) establishes a link "between the discovery of perspective and the birth of historical consciousness in the age of the Renaissance" (p. 60), this inference can be said to rely on the Formal operator (extracting a parallel between two seemingly unrelated fields; attending to temporal contiguities) and the Symbolic operator (re-signifying *perspective* in the literal sense of seeing in depth, but also in the figurative sense of awareness of one's "place" in history). Here, the operators are used for the purpose of understanding, not getting a laugh. But they are not used, as

in an analytic interpretation, for the purpose of *transforming* a patient's situation through the communication of that understanding¹. In this sense, the purpose to which operators are put in analytic therapy differs from the one to which they are put in other "sciences of understanding," such as history.

1.3 Conditions

A third factor to consider, in relation to the use of the operators in analytic CR, is whether these are used within the conditions identified in Chapter 5 or not. These conditions relate to a different "tier" than the operators model, in that they are the conditions *under which* the operators are used. They may be called "boundary conditions," for they are at once what makes the CR process possible, and what restrains it. An example is time. Case conceptualizations need time to develop, and thus time is a "condition of possibility" of the CR process, to use a Kantian language. But equally, time is what "holds back" the process at any given moment – what bounds its unfolding and thus limits the understanding.

If the use of the operators is inscribed within these conditions, then varying the conditions will also vary the kind of activity that one is engaging in. An example is opposition. This condition allows to differentiate between self-analysis and therapy (or between self-supervision and supervision). For in self-analysis (or self-supervision), the condition of opposition – in the literal sense of a dialogue between two persons – is suspended. Similarly, conditions such as time, immersion, and reflection allow to differentiate between the use of the operators that is made in therapy versus supervision or, more generally, in "reflection-in-action" versus "reflection-on-action" (Schön, 1983). As we are going to argue later in more depth, the difference between these two types of reflexivity does not have to be predicated on the knowledge structures that are being used (the operators), for it can be seen as a function of the boundary conditions.

¹ For the difference between these two levels, which correspond to Bion's "K" and "O," see later: "Limitations and future research."

Finally, it is worth noting that the boundary conditions, just like the operators, are not unique to analytic therapy either. All therapy is typically based on the conditions of time and opposition (the latter being absent, for instance, in self-help). Thus, the presence of the five boundary conditions is not sufficient to capture the unicity of psychoanalytic CR; although it helps to think its declination in various contexts.

1.4 Paradigms

A fourth factor to consider are the epistemological paradigms *within which* the CR process is inscribed. We have already mentioned Forrester's "thinking in cases" (1996), Ginzburg's "conjectural paradigm" (1980), and Schön's "reflection-in-action" (1983). Just like boundary conditions, paradigms have to be located at a higher "tier" than the operators. The operators are the knowledge structures that are used *within* paradigms, and thus occupy a narrower epistemological realm. Yet, paradigms do not coincide with boundary conditions, for paradigms, as noted, are sets of assumption about the nature of knowledge and the ways in which it can be attained, and not conditions of possibility of the CR process. On the other hand, paradigms do not coincide with analytic "core theory" either, since they are common to a variety of professions (e.g., historians, architects).

As noted, Forrester, Ginzburg and Schön all concur that analytic CR operates within a non-positivistic paradigm of the type they describe. However, some operators may be used also within a positivistic paradigm, such as "statistical thinking." As noted, a CBT therapist may use the Formal operator to recognize patterns, for instance, but inscribe this activity within a different epistemology of practice than the analytic one. Operating within one paradigm or another is bound to influence the way in which the operators are used.

Incidentally, it is worth noticing in this regard how the way in which paradigms are described tends to be "tainted" by the colors of one or another of the operators. Ginzburg's "clue-based reasoning," for instance, can be interpreted both as the description of an overall paradigm and of a specific

inferential style. For if the term “clue” is intended in a narrow sense, then this way of thinking coincides with our Investigative operator. But if it is intended in a broader sense (as a synonym for “sign”), then Ginzburg’s semiotic approach has the status of an overall paradigm within which all of the 12 operators are inscribed. It is in this broader sense that also Theodor Reik, for instance, qualifies psychoanalytic listening as dealing generally with “clues” (cf. Arnold, 2006).

Similarly, Forrester proposes “thinking in cases” as an overall paradigm. Yet, the way in which he describes it makes use of the verbal markers of the Mimetic operator. In fact, if a feature of analytic CR is that the therapist preoccupies him or herself “with *that which is most individual* in the manifestations of human behaviour which at first glance appear to be general” (Zilboorg, 1952, p. 490), a similar concern for what is particular, unique, or singular characterizes Forrester’s thinking in cases. The link between thinking in cases and mimetic thinking can also be demonstrated historically. In Chapter 4, in fact, we noted that mimetic thinking can be traced back to the Romantic *Einfühlung*, which indicated an interest for the “specific way of perceiving the world particular to a nation, a historical period, or an individual”: “Romanticism was concerned with particular nations and cultures, not just with society in general” (Ellenberger, 1970/1994, p. 201). But transposed in a clinical context, this reflective attitude, which emphasizes “the absolute uniqueness” (p. 201) and “irreplaceable value” (p. 279) of each individual, translated precisely into *an interest for the single case* and a refusal of diagnostic labels. One of the features of Romantic psychiatry, as reflected in the work of pioneers such as “Reil, Heinroth, Ideler, and Neumann,” was the fact that they “distrusted psychiatric classifications ... Each insisted upon the necessity of regarding every individual case as a specific one in its own right” (p. 214). The same distrust for diagnostic labels and interest for *single cases* is found in psychoanalysis.

Finally, in this thesis we have referred to the operators as “CR styles” (Chapter 1) or “ways of thinking” (Chapter 4). These terms implicitly evoke the notion of “style of reasoning”

that was proposed by the philosopher Ian Hacking (1992). This notion belongs to the same “tier” as overall paradigms. As Bueno (2012) notes, in fact, Hacking’s styles have an encompassing character: they are “broad frameworks that govern a certain way of investigating the world,” and one of their “central features” is “to determine the range of what is true or false within a given domain” (p. 658), i.e., “specifying truth-conditions” (p. 659). In contrast, the operators are less encompassing and relate to the problem of discovery, not justification². In this sense, our view of the operators comes closer to Bueno’s “narrow” styles of reasoning, which serve “to *draw inferences*” more specifically (p. 660, emphasis added), and are not “presupposed,” but “used” (p. 659). However, our operators differ also from Bueno’s styles of reasoning, in that they are not used with the purpose of “preserving the truth” (p. 659), but making new discoveries.

1.5 Theory

In Chapter 3, we suggested that the crux of analytic CR does not consist in the application of “theory,” but in the use of the operators. However, we have admitted that theory still plays a central role – simply not for the purpose of discovery, but of justification. Theory would work like a frame that gives analytic therapists a *context* in which operators-driven inferences are funneled (core theory) and evaluated (public theory). Theory thus constitutes another factor to consider when seeking to identify what is specific about the use of the operators in analytic CR. What is specific, in addition to the factors identified above, is their being used *against a certain background of crystallized knowledge* (analytic theory). Stand-up comedians do not have that background; nor do CBT therapists. Although we do not yet know exactly how this

² On the other hand, just like our operators, Hacking’s styles of reasoning are “largely uncommitted character with regard to particular theories”: “Hacking’s description of scientific practice tends not to emphasize the role of theories ... [Hacking is not] fond of theories as the key ingredient of scientific practice, and for the most part, theories tend to play a limited role in his account of scientific activity” (Bueno, 2012, p. 658).

background influences the way in which the operators are used, we can surmise that if one has no “nails” to hang their operators-driven inferences on, then their CR process is likely to take different routes than if they do. Similarly, having an altogether different set of public theories in the back of one’s mind (as non-analytic therapists do) can be expected to make a difference in terms of how the thinking process is organized.

1.6 Technique

What we just said about theory holds true also for technique. In Chapter 3, in fact, we focused on the 6 conceptual operators and their relation to analytic theory. But the distinction between fluid and crystallized knowledge could be applied also to the 6 reflective operators and their relation to analytic technique³. For if the understanding accrued through CR is used for two purposes, *case conceptualization* and *reflective practice* (Chapter 1), and if “public theory” can be seen as the crystallization of chains of conceptual operations (Chapter 3), then “public technique” could also be seen as the crystallization of chains of reflective operations. The space does not suffice here to develop this hypothesis in full. But it is worth noting that the same hypothesis was implicitly advanced by Peterfreund (1975) when he wrote:

it is a cardinal principle of clinical psychoanalysis that we generally interpret dreams only after we get associations. This principle or guiding rule can be considered to be part of the general strategy mentioned

³ As repeatedly noted throughout the thesis, the distinction between conceptual and reflective operators should be taken *cum grano salis*. Several operators bridge the divide. An example is the Investigative operator. This family contains functions that are used for the conceptual manipulation of “clues,” but also functions inviting the therapist into a general posture of “suspicion,” from which those conceptual operations are carried out. Similarly, the Self-reflective operator is used to enter a reflective posture whence one “listens” to the clinical material in a certain way. Yet, this operator is also used in a purely conceptual way (cf. the dream interpretation from the vignette used to illustrate this operator in Chapter 4). It follows that some conceptual operators can also crystallize into public technique, and some reflective operators into public theory.

earlier of attempting to discover specific and unique meanings. (p. 94)

Here, Peterfreund is establishing a link between a general strategy that he suggests analytic therapists use in their everyday practice with patients (i.e., attempting to discover unique or singular meanings) and its connection to a technical rule (i.e., that one should interpret dreams starting not from prefabricated meanings but from the dreamer's associations). In the language of our model, this rule can be seen as a crystallization of the Mimetic operator, which operationalizes Peterfreund's strategy to *approximate* what is specific or unique about a patient's dream, and of the Spontaneous operator, which operationalizes the act of working with what comes to mind (the patient's associations). Freud's "golden rule" is another example of the crystallization of the Spontaneous operator; while his "rule of abstinence" is an example of the crystallization of the Enkratic operator⁴.

If public technique (just like public theory) constitutes a form of "crystallized knowledge" that analytic therapists possess, then it is going to make a difference whether the operators are being used against this background or not. The frames of theory and technique would both be factors to consider when assessing the specificity of psychoanalytic CR.

1.7 Material

The final factor to consider is that, in analytic CR, the operators are applied to a special kind of material: the clinical material. This material differs from the one that is thought through in philosophy or history. The fact that this material is unique to a single person, and hence lends itself to be "thought in cases," is an important, but insufficient condition. For also the material that is used in so-called "micro-history" (Molho, 2004), for instance, would meet this requirement.

⁴ Incidentally, the same considerations made in Chapter 3 about theory apply to technique: namely, that one should not apply it "deductively" (i.e., dogmatically), but go through that same CR process that led Freud or others to arrive at posing those practical rules. The reasons for technique also have to be "re-found" anew, to say it with Parsons (1992).

Rather, another aspect that seems key is that this material *is submitted to analysis by the patient themselves*, and thus allows the operators to be applied to it for the purpose of helping this one person learn from their experience.

As argued in Chapter 4, the operators are thought-forms that can be applied in a variety of fields. Nietzsche, for instance, is said to have "*transposed into psychology* Robert Mayer's principle of conservation and transformation of energy" (Ellenberger, 1970/1994, p. 273, emphasis added); while Freud, according to Thomas Mann, "*translated from metaphysics to psychology*" Schopenhauer's "description of the will and the intellect" (p. 209, emphasis added). But these transpositions (or translations) are not without consequence. For the use of the operators can have very different effects, depending on the kind of material to which they are applied. To illustrate, let us take Parmenides' philosophical assertion: "Whatever is, is; and what is not, cannot be." We recognize here the Dialectical operator, applied to the pair "being/not-being". Now let us consider Epicurus' assertion: "While we exist, our death is not; and when our death occurs, we do not exist." As it has been noted by historians of ideas, Epicurus' statement is very "Parmenidean." In the language of our model, this means that it makes use of the same Dialectical operator. And yet, the fact that this operator was *transposed* by Epicurus from ontology to ethics has a transformative effect. For Epicurus' statement, unlike Parmenides', works as a "*pharmakon*," i.e., a proposition that alleviates anxiety. Psychoanalytic interpretations also work in that way. They are not abstract philosophical statements, but "words that cure." And their *therapeutic effect* can be explained precisely by the fact that they are transpositions of those old forms to a material that is different than the one of "pure philosophy." The fact that psychoanalysis *transposed* these forms from, say, "economic and social facts" to "*the psychology of the individual*" (Ellenberger, 1970/1994, p. 240, emphasis added) can explain why these forms have the potential to work not (only) as tools for explanation, but (also) for growth. This transposition created an entirely new discourse that is different than the philosophical one: a *therapeutic* discourse.

1.8 Putting it all together

To summarize, what is specific to the use of the operators in analytic CR is the fact that it consists in the application of (i) *a particular collection of reasoning styles*; (ii) *to that special kind of content which we call "clinical material"*; (iii) *for the purpose of learning from experience*; (iv) *within certain boundary conditions*; (v) *in the context of a non-positivistic epistemology of practice*; and against the background of (vi) *psychoanalytic theory* and (vii) *technique*. In other words, what is specific to the use of the operators in analytic CR is that it is embedded in a particular *praxis*.

Starting from this general model, one can "disentangle" the various components and consider them separately. This can help to account not only for the specificity of analytic CR, but also for its various declinations. To illustrate, let us take the use of psychoanalytic thinking by an author like Slavoj Žižek. Žižek is famous for "thinking psychoanalytically" about political events or products of popular culture (e.g., movies). This means that one of the criteria has already been altered, for the material that is being thought through is not clinical, but extra-clinical. However, other criteria are met. Notably, Žižek's work makes frequent use of the operator (especially the Dialectical and Skeptical operators, which awarded him the title of "master of the counterintuitive observation"), against his crystallized knowledge of Lacanian public theories. This is why his work can be recognized as "psychoanalytic." But what is missing are other aspects of the analytic *praxis*. For instance, certain boundary conditions (e.g., opposition) are suspended; the purpose is not the growth of any single individual, but only the generation of understanding; and the whole question of "technique," equally, does not apply.

This model is flexible enough to account also for the use that is made of the operators in other *praxes*. For instance, psychoanalytic thinking has been applied to educational settings as well (Mintz, 2016). Taubman (2007) recommends that, to increase their reflexivity, teachers "ask themselves" a series of questions, such as whether "the way they treated students reproduced older patterns of relating that evolved in

their families" (Formal and Genealogical operators); "what their own psychic investments were in being a good student or being an unruly one" (Self-reflective operator); "whom a particular student represented to them" (Symbolic operator); "what accounted for the intensity of a particular reaction" (Dynamic operator); or "how they were both oppressor and victim" in the classroom (Emancipatory operator)" (p. 4). Here, we can clearly recognize the use of the operators, although embedded in a completely different *praxis*.

2. Is it a good idea to make the implicit explicit?

The second major question that emerges from the thesis as a whole regards the advisability of making the implicit explicit. In Chapter 1, we proposed a method to spell out the mental acts carried out by analytic therapists. As noted, analytic therapists do not "think" in terms of functions or their families; rather, these are used *implicitly*. In Chapter 3, we further highlighted how difficult it is for analytic therapists to bring the operators of their CR into view, because these represent a priori categories which, due to their ubiquity, tend not to be apperceived as such. Yet, with our model, we sought to extract these functions, to group them, and to name them, so that they could be *talked about*.

This approach of ours was aimed at countering what Schön (1983) calls "a mystique of practical competence" (p. vii). This term indicates the attitude of some practitioners who prefer to describe their reasoning process in terms of "'art' and 'intuition'", and avoid spelling out its logic (p. vii). Although an artistic and intuitive dimension surely pertain to analytic CR, a "logical" one does too. But those who espouse a mystique of practical competence do not contribute to its uncovering, thus perpetuating the "rift between the universities and the professions, research and practice, thought and action" (p. viii). By using terms such as art or intuition, these practitioners "usually intend to terminate discussion rather than to open up inquiry," as if they were saying: "'My kind of knowledge is indescribable', or even, 'I will not attempt to describe it lest I paralyze myself'" (p. viii).

In this thesis, we assumed that clinical knowledge is produced not (only) by some “mystical” process, but (also) a logical one, which *can* be described, and that this description will not have a paralyzing effect. As Wolitzky (2007) notes, although the therapist is not “necessarily aware of the implicit ‘rules of clinical evidence’ that he or she is using,” still “there is an underlying clinical logic to what might otherwise be seen as pure intuition or a mysterious process” (p. 25-26). One of our aims, as for Wolitzky, was to “demystify” (p. 17) analytic CR. Ultimately, this de-mystifying attempt has as its goal the one envisioned by Ramzy (1974):

Only when the analyst can respond to the question: ‘How did you figure that out?’ by giving answers which do not beg the question, nor include analytic jargon but show the evidence and *describe the mental operations by which he arrived at his conclusions* that we shall be well on the way towards an explicit formulation of the logic of psychoanalysis. (p. 549-550, emphasis added)

Currently, we are far from this goal, since analytic therapists struggle to give a descriptive account of their logic of discovery (although they do not struggle in the act of discovering itself). This is why, in Chapter 1, a certain interpretative activity was needed on our part to spell out functions and group them. It is easier for therapists to evoke retrospectively bits of public theory, although these may not be what they actually used in their CR process (Chapter 3). The descriptive language that we have developed serves precisely to enable a conversation for reflective agents to have between them (e.g., in supervision), and with themselves (e.g., in self-supervision), about their CR process.

2.1 Logical vs clinical inferences

Some of the authors interested in making explicit the analytic rules of inference seem to consider the latter literally as “logical” rules. Ramzy (1974), for instance, suggests that: psychoanalysis as a method can be defined as the science which deals with the errors of the human mind. The psychoanalyst may then be described as a

therapeutic logician, or a logical physician ... our method is nothing but a serious attempt to apply scientific method to the study of the human mind (p. 548).

In contrast, we believe that this view fundamentally mistakes the nature of clinical inferences as well as the purpose of analytic therapy. As argued in Chapters 1 and 3, the inferential steps that underpin analytic CR are not logical inferences in the strict sense. Clinical inferences rather consist of conceptual or reflective *operations*, which have little to do with the kind of inferences that appear on handbooks of formal logic. These operations are typically neither deductions nor inductions in the narrow logical sense, but mental acts which, only when chained together, can give rise to larger abductive processes *à la* Peirce (cf. Chapter 3). Operations rest on functions, which are not “if *p* then *q*” rules of inference, but “condition-action sequences” (Chapter 1). Our operators, as families of condition-action sequences, are not *logical operators*, but rather conceptual or reflective ones.

Thus, not only analytic therapy as a whole cannot be reduced to a “therapy by operators,” for other fundamental processes are involved (e.g., working through; cf. Chapter 3). But also the CR aspect of analytic therapy cannot be reduced to a “logical” procedure. This is apparent if we consider conceptual operations such as the interpretation of a literal element in a figurative way (Symbolic operator). But it is even clearer if we consider reflective operations, such as the re-positioning of the therapist into a posture of doubt (Skeptical operator) or their exploration of the intentions being their urge to act (Enkratic operator). Strictly speaking, reflective operations do not even consist in drawing discrete “inferences,” but rather in adopting and maintaining certain postures that are thought to be generally favorable to a process of *understanding*. Finally, “psycho-analytic interpretation” may have as its “object of illumination” the “distortion” in the patient’s representation of their own experience (Bion, 1965, p. 49). But as noted, the purpose of analytic CR is not to help patients think more “logically,” but learn from experience. The development of meaning “is not logically, but psycho-logically necessary” (p. 73).

The broad use that we make of the term “logic” aligns with that of other authors. Just as Mill (1843/2008) considers logic, in a broad sense, as bordering on “hermeneutics” (an “interpretation” of marks; p. 230), so for Peirce, too, “logic comprehends the whole working of human mind as semiotic process” (Saller, 2017, p. 192). Importantly, as Saller continues to note, this “slight change of meaning of the term ‘logic’” corresponds to a “broadening of meaning of the term ‘rationality’” to include not only cognitive but also affective processes (p. 192). And the inclusion of both affective and cognitive processes is particularly pertinent to analytic CR. Kettner (1991), too, agrees that, while hermeneutics, as the activity of “inferring meanings and meaning connections,” has often been seen as an “intuitive, logically uninteresting or ... rationally unconstrained activity,” by employing a hermeneutic (or abductive) model of analytic CR, this process “can be seen as a rational activity” (p. 168).

It is within this expansion of the terms “logic” and “rationality” that our project has to be collocated. What we want to uncover, spell out, or make explicit, are the steps of a process that involves both cognitive and affective aspects. Pulling the focus onto oneself (Self-reflective operator), or repositioning into a stance of accountability (Emancipatory operator), for instance, are mental acts that require an effort that does not cost to the subject in their cognitive budget, so much as in their emotional strength or passion for the “truth” (an effort that may thus be described better as “ethical”). Developing a “capacity for thinking,” then, does not mean cultivating an intellectual or cognitive activity but, as noted in the introduction, a capacity to transform confusing states of need and frustration (i.e., “thoughts”) into (self-)knowledge. As Stedmon and Dallos (2009) also note, analytic therapy emphasizes “reflection on our emotional and embodied experiences, not just our semantic statements” (p. 56).

But the same can be said about the use of the operators in fields that historically predate analytic therapy (Chapter 4). What some call “Socratic therapy,” for instance, was never just about “intellectual” work. As Ekstein (1975) explains:

the Socrates of Aristophanes' play is by no means merely a logician, relying on the appeal to rationality ... In the picture painted by Aristophanes we find a therapist who dealt with feelings and invited associations not meant to be simply logical (p. 256)

Just like modern therapists, philosophers like Socrates helped their patients "find their way in life by giving them" certain "weapons of understanding" (Ekstein, 1975, p. 251), i.e., the operators. It was not about instilling content-based knowledge, so much as developing a *capacity for thinking*⁵. That of the "philosopher-therapist," then, is a "thinking school" (p. 256), but where "thinking" again should be taken to mean a general capacity to "find ingenious alternatives" (p. 255). By inviting his patient to use the Spontaneous operator, for instance, Socrates invited them to enter a posture believed to be conducive to understanding. Through his posture, which can be opposed to a strictly logical attitude, "one can find new options, new solutions, if one allows one's mind to wander – to give up, as we would say now, secondary process thinking and return to a free association" (p. 256). But the Spontaneous operator is not the only one that invites reflective agents into a position that is "often prelogical" and passes "through a gateway to problem solving" that is not merely intellectual (p. 256). Another example is the Mimetic operator. As noted, the Romantics described this way of thinking as the capacity to participate in and almost become the object of one's thought (Goethe's *Gemüt*), and opposed it to a merely cognitive capacity. But Bion (1965) also opposes an "aesthetic" way of thinking to a merely "scientific" one (p. 38), and sees both as essential for everyday analytic CR. For instance, in the case

⁵ In line with Bion's theory, this capacity is transmitted from mentor (therapist/supervisor) to pupil (patient/supervisee) with the aim of enabling them to "think through" the problems of life on their own. As Ekstein notes, "the help Socrates gave Xenophon" in one case, which gave him "insight" into his own motives for a certain action, then "actually prepared Xenophon later to analyze his dream himself" (p. 251). Future research may study the interiorization of the operators as an *explanans* for post-termination effects of analytic therapy (Falkenström et al., 2007).

of a patient whose “thought processes were extremely disturbed” and many of whose “utterances” were “incomprehensible even after prolonged analysis,” he writes: “When I thought I grasped his meaning it was often by virtue of an aesthetic rather than a scientific experience” (p. 52).

Spontaneous or mimetic thinking are ways of being “rational” that go beyond a narrow conception of rationality. The idea that there is a plurality of scientific thinking styles, or “different ways of achieving objectivity” (Mayer, 2017, p. 161), is one that we take from Hacking’s “styles project.” Another example is the Symbolic operator. As noted in Chapter 4, modern Western science confined the use of metaphor to poetics or rhetoric, due to a cultural heritage that has been traced back to Aristotle. But Aristotle himself, as Driscoll (2012) notes, used metaphors constantly in his work, as did most of the great thinkers in the West. Metaphors, in fact, have a “cognitive value” and “epistemological power” that is irreplaceable for the logic of discovery (p. 21). They have “a genuine function in disclosing truth” (p. 24), generating “fundamental discoveries” (p. 25), and uncovering “new meanings” (p. 26). But if symbolic thinking is essential for discovery, then there is no reason not to consider it part and parcel of the “rational process” (p. 29). And this, not *in spite of* the fact that it is not a strictly “logical” way of thinking, but *because of* it. For metaphors are key to discovery insofar as they do not consist of logical inferences, from which one typically learns *nothing new*: “metaphor helps us discover new things that are only possible because of metaphor’s unique function; deductive language is not capable of leading to this discovery in the same way” (p. 24).

2.2 The centipede’s dilemma

Even if the operators are not strictly “logical” ways of thinking, one may still object that becoming conscious of them risks hindering practice. This objection could be framed as a variant of the “centipede’s dilemma.” As the story goes, a toad asked a centipede, “Which leg moves after which?”. The question raised such doubts in the centipede that it did

not know how to walk anymore (Lankaster, 1889, p. 80). In the context of human performance, this dilemma refers to the idea that any competent practitioner, such as a golf or tennis player, may disrupt their automatic activity by bringing too much reflection on it. We noted how, also according to Schön (1983), practitioners would be afraid of describing their practice “lest I *paralyze* myself” (p. viii, emphasis added). But besides utter paralysis, the risk may be a loss of spontaneity, creativity, or “flow” experience. If an analytic therapist was really able at any given moment to “describe the mental operations by which he arrived at his conclusions” (Ramzy (1974, p. 550), would they not be living too much “in their head,” as opposed to being fully present with their patient?

In the language of Chapter 3, the objection to our project of making the implicit explicit may also run as follows: While the operators model would like to present itself not as a theory, but as a model of clinical thinking, is it not the destiny of any “meta-theory” to become just another theory in turn, which risks being used in a deductive (top-down) way? If what matters is to keep one’s CR “fluid,” then is there not an inherent contradiction in teaching the operators explicitly (as we did in Chapter 2), since the operators themselves – formerly an *implicit* kind of knowledge – would then become an *explicit*, crystallized kind of knowledge? Would that not defy the purpose, if the goal is to achieve that “naivety” which is characteristic of fluid CR? Our response to this objection builds on the distinction between “reflection-in-action” (RiA) and “reflection-on-action” (RoA) (Schön, 1983). Our position on the matter is that, *while the operators are used in action, the operators model should only be used on action*. Let us consider these two propositions separately.

2.2.1 Operators and reflection-in-action

The first proposition is that the operators are what analytic therapists use in their RiA. This is a conclusion that we draw from the results of the operators study in Chapter 1. It may be objected in this regard that our study focused on supervision sessions, which represent a form of RoA, as

opposed to therapy sessions, which represent a form of RiA. However, a series of points should be considered. First, if it is true that supervision is more about RoA than about RiA, it still contains a mixture of both RiA and RoA (Yerushalmi, 2012). The supervisor helps the therapist to think back on what happened with the patient, but at the same time s/he reflects on what is unfolding *then and there* between them and the supervisee (for instance, in terms of “parallel process”). Second, it is worth reminding that our model was built on “instances of CR” which included the inferences that a therapist made *at the time of the sessions with the patient*, and which, when related to the supervisor, were assented to. Hence, our model was based on the thinking that was done during all three of the “reflective rounds”: not only IPR interviews or supervision sessions, but also therapy sessions. Third, our conclusion that the operators are what analytic therapists use to reflect *in action* is not only based on the results of Chapter 1, but also on a “triangulation” with other sources as well. For instance, in Chapter 4, in order to illustrate the operators, we reported clinical vignettes which come from a mix of therapy as well as supervision sessions. This “triangulation” includes also our personal experience in training analysis, clinical practice as analytic therapists, and supervision, which followed the development of the model and afforded an opportunity to check its clinical validity.

Finally, a fourth point to consider regards the very distinction between RiA and RoA. The fact that these two types of reflexivity “feel” different at a subjective level does not mean that they must consist in the mobilization of different *knowledge structures*. As already mentioned, the difference between RiA and RoA can be framed, more simply, in terms of boundary conditions. In fact, the very terms RiA and RoA evoke a distinction based on *temporality*: reflection “during” versus “after” action. When a therapist goes to supervision, they effect a relative shift from RiA to RoA that allows meaning to be developed further. But this is not because the “heuristics” in use have suddenly changed. Rather, going to supervision allows meaning to be developed further because *time* has passed; the grades of *immersion*

have shifted; a new kind of *opposition* is in place; and there is more latitude for a retrospective *reflection* on the logic of the case⁶. That is why Canestri (1999) insists that:

the supervisor has an advantage over the therapist, not so much by virtue of greater experience and competence, but above all because of the *position* the supervisor occupies in respect to the 'object' in clinical psychoanalysis ... when I speak of position, I have in mind the phenomena and the laws of perspective: if the centre changes, the representation changes (p. 187).

What Canestri calls "laws of perspective," we call boundary conditions. The advantage of a supervisor over a therapist lies not in their superior capacity for understanding, but in their being less *immersed* in the clinical material and their arriving at a second *time*, compared to the therapist. This point applies to other professions as well. Let us suppose that a detective visits a crime scene, and consider this as the equivalent of their RiA. The information that the detective collects gets "transformed" into notes or photographs that are now hanging from their wall. Let us suppose now that, although no new material is added, during the review of this evidence (RoA), a selected fact emerges or a "link" is made which helps move the inquiry forward. In this case, there is no reason to think that the *instruments of discovery* used by the detective changed all of a sudden. Rather, what marks a difference before and after the breakthrough are the *conditions of discovery*: namely, the fact that the detective went through the evidence repeatedly over *time*; *immersing* themselves more and more in the material; driven by their *passion* for truth or justice; and possibly stimulated by conversations with a partner (*opposition*). In action, reflection is simply "slowed down" by the same boundary conditions which, after the action, allow it to move further.

⁶ This is also why we did not lay special emphasis on having participants recall *immediately after* the action (cf. Caspar, 1997). It may be argued, in this regard, that letting time pass risks leading to a falsification. But in a Hegelian view (Chapter 5), what remains in the reflective process through time is what *ought* to remain – what is essential and necessary.

2.2.2 Operators and reflection-on-action

Let us move now to the second proposition, that *the operators model should be used only to reflect "on" action*. This proposition follows from Bion's recommendations for the use of his grid. As briefly mentioned in Chapter 1, the grid is a formal tool that Bion developed on the basis of his theory of functions, with the intention of helping practicing therapists think through configurations of elements in the clinical material that proved particularly challenging to understand. The grid is, as it were, the "usable" or "consultable" version of his theory: i.e., a working tool "for the practicing psycho-analyst to ease problems of thinking about something that is unknown" (Bion, 1962, p. 89). The equivalent that Bion has in mind is the column method, the abacus, or similar tools used in mathematics: when a calculus becomes too complex to be solved with one's mental capacities alone, a formal tool is resorted to which supports the thinking process. The grid should allow therapists to translate clinical problems into a formal space where they might be "solved" through a "restatement" of those problems that admits more "sophisticated solutions" (1965, p. 125). Bion acknowledges that the grid – which comes in the form of an actual table – "imparts an air of rigidity that may seem alien to a clinical approach" (1963, p. 15), and is aware that "nothing in the practice of psycho-analysis ever fits into neat and rigid categorizations" (1965, p. 132). In this sense, he anticipates the "fears" (1963, p. 25) of the defenders of a mystique of professional competence. But he maintains that, "provided it is used properly" (1963, p. 25), the grid has clinical utility.

Without going into the details of how the grid is structured, what is relevant to us is how Bion intended it to be used. And the main recommendation by Bion is that the grid should not be used *in* the session. As he clearly states:

The analytic session is too precious an opportunity for observation to be jeopardized by pre-occupations of the kind my description implies ... [the grid is] a scheme to facilitate thinking about analytic work *outside* the sessions themselves (1963, p. 73, emphasis in original)

Bion's recommendation is intended to avoid precisely the loss of that "naivety" (fluidity) that is central to everyday analytic CR. As Charles (2002) explains, Bion "was concerned that the grid might be used" for "distancing one's self from the experience at hand ... as a barrier to the ongoing moment within the session" (p. 439). If, while the patient speaks, "the analyst's attention is slanted to pick up the characteristics that determine grid classification it would be selective attention" (Bion, 1965, p. 75), and not that "state of free-floating attention" which is "desirable in the analyst" (p. 50). In the language of our model, we may say that if the therapist is thinking about the operators while using them, then they are not using at least one of them: the Spontaneous operator. For this operator (which operationalizes the recommendation that attention be "evenly-suspended") would forbid them to use the model in that way⁷. But while Bion cautioned against the use of the grid for RiA, at the same time he believed the thought processes which the grid categories indicate to be routinely yet implicitly used by analytic therapists *in sessions*. What Bion cautioned against, thus, is not the use of the grid categories, but for *therapists to think about the grid categories while using them*. In this sense, for him, it "is important to distinguish between the grid ... operating in tranquility on recollections [RoA], and the grid as part of the analyst's intuitive contact with the emotional situation itself [RiA]" (1965, p. 76). The difference lies again in the boundary conditions: in "the tension of the session," a therapist is not "able to see that grid and transformation are in use" (p. 75); nor should s/he be, in order to preserve the *immersion*.

Having established that the operators model, just like the grid, is to be used during RoA, and not RiA, let us consider more specifically *how* it can be used. In this regard, we can differentiate between two main uses of the operators model, which again mirror the "uses of the grid" (1963, p. 99).

⁷ Also the use of the Mimetic operator, as well as the boundary condition of immersion, seem incompatible with a crystallized use of our model.

Meditative review

The first use of the operators model is what Bion calls "*Meditative Review*" (1965, p. 99). This corresponds to the recollection "in tranquility" (p. 125) mentioned above, and can be seen as a form of self-supervision. The therapist thinks *back* on a therapy session in a context which, in terms of boundary conditions, is characterized by less immersion, and more time and possibility for reflection. Bion stresses that this context is less emotionally-charged than therapy, and seems to consider this as another condition for understanding: the grid is not applied "in an atmosphere of emotional tension," but "to the recollection of such situations" (1965, p. 75-76), i.e., in a context that has been "detoxicated" (p. 125) from emotion, in a way that is conducive to "clarification" (p. 141). Detoxification, in turn, is facilitated by opposition: "the 'clarification' of a primitive emotion depends on its being contained by a container which will detoxicate it" (p. 141). For although the condition of opposition is formally suspended in self-supervision, the idea is to recreate it through the therapist's contention with the grid or the operators model. This internal containment allows "a progression" (p. 125) from the emotional experience to its transformation into a verbal representation. Thus, the case conceptualization "may be regarded as a representation, 'detoxicated'" (p. 125).

The meditative review can be performed backwards or forwards. Performing it *backwards* means taking an instance of CR that the therapist has spontaneously produced and making explicit the underlying inferential steps, by *classifying* them in terms of the grid categories (in Bion's case) or the operators (in ours)⁸. A therapist "may arrest the [CR] process, at whatever point," interrupting what "in fact is a continuous process" (1965, p. 152), to ask themselves how they *arrived* there. This is the same question that we posed to participants during the IPR interview in Chapter 1.

⁸ We are considering here mainly the application of the grid/operators model to the therapist's CR process. But as Bion (1963) suggests, one may apply the review also to the patient's statements, as well as to the "*couple*, association and interpretation" (p. 100, emphasis in original).

However, the therapist would be aided in answering this question precisely by the descriptive language that we have developed for retrospectively breaking down instances of CR. The aim of this review is for the therapist to familiarize themselves with the *structure* of their own thinking, to reflect on the evidence that supports their inferences, and to be able to communicate their CR process to third parties. The “processes of transformation,” in fact, can be “inspected at various stages” (p. 152): e.g., therapy but also supervision.

Performing the review *forwards* means exploring the configurations of meaning that have not yet been picked up, but lie dormant in the clinical material⁹. The aim here is to really aid the therapist in the logic of discovery, i.e., the further “clarification” of what they are “observing” (p. 169). This implies not a retrospective classification of what has already been done, but a meditation on *what else* could have been done in the session, or could be done in future sessions. Indeed, a patient’s “statement” can be “regarded as a field of diverse dimensions with which we are required to deal” (p. 125), and a therapist always picks up some of these dimensions, while leaving others unattended. Here, the operators model could thus be used to address blind spots: For instance, to help a therapist notice certain meaningful links that passed “under their nose” (cf. the example of the Groundhog Day used for the Symbolic operator in Chapter 4). By applying the operators retrospectively to a batch of clinical material, a therapist might open up new perspectives, helping “peripheral” elements to be “detected” (p. 132). Just as “a layman,” by listening to a patient, would be able to understand some things but remain “puzzled” by others, so a trained therapist can also benefit from this revision (p. 130). This exercise might help therapists find different “shades” of meaning (p. 132) in the clinical material, but it may also help

⁹ *Forward* in this sense does not mean oriented towards the future, but capable of opening other perspectives than the ones that were opened. As part of this counter-factual CR exercise, the therapist might suppose “what the interpretations would have been and what course the analyst might have taken if, instead of the actual conjectures and interpretations, the material had been categorized quite differently” (Bion, 1965, p. 128).

them reflect more generally on their own "thinking style." They might discover that there are certain operators that they rely on with frequency, and others with which they struggle. By becoming aware of these differences and working on them, therapists may develop personally and professionally. Not only their "view of the session might be enhanced" (p. 18), but the view of themselves as persons and therapists.

Importantly, the review should be aimed at striking a balance between understanding and not understanding. Analytic therapists, in fact, should always be "legging behind" with regards to the clinical material, as a condition for their curiosity (K). In this sense, they should avoid the temptation for any "precocious advance" (p. 159). But on the other hand, this gap should not be left to widen excessively, lest the therapist is so overwhelmed with unmanageable beta-elements that they cannot be of any help to the patient. The search for this optimal point of relative ignorance can be compared to the safe following distance between vehicles. In the context of this analogy, the meditative review works like an "accelerator" (countering the slowdown effect of boundary conditions). It allows the therapist who is feeling too much behind to step up a little. But its use should not bypass the point of naivety (fluid CR) which remains the regulative ideal.

As a rule, then, as long as the CR process is flowing, the review is not essential. But if the wind should stop blowing, one might have to pull out the oars and start rowing. The operators are the oars. They are to be used (explicitly) only when a move forward is to be effected "manually." A therapist may turn to this self-supervision tool for the same reasons for which they may turn to supervision. But the advantage is that this tool can be used also for very focused impasses. If, "at the end of the day's work," a therapist "wishes to review some aspect of his work about which he is doubtful," such as the meaning of a patient's statement, they can resort to this kind of review (p. 99). Ordinarily a therapist will not "go through a series of conscious speculations on the nature of simple statements," but if s/he "wishes to do some 'homework'" or "extra-analytic meditation," then they "may refer the doubtful material" to the grid or our model (p. 70).

Psychoanalytic game

The grid can be used not only for self-supervision, but also for training and continuing professional development: i.e., as “a means for increasing one’s powers of observation, intuition, interpretation, and transformation” (Charles, 2002, p. 439). This brings us to the second main use of our model, which is for trainee or practicing therapists to develop (or develop *further*) their CR skills. As Bion (1963) explains, while the use of the grid for meditative review is “closely associated with actual analytic experiences,” the grid can also “be profitably used in a kind of analytic make-believe in which the experiential element is far less dominant” (p. 101). Bion calls the latter use of the grid “the psycho-analytic game” (p. 101).

The psychoanalytic game is essentially what we proposed to students in the RCT. Since the students were not practicing clinicians with a caseload to select patients from, we provided them with “make-believe” scenarios to play with, as a way to develop their CR skills. In a strict sense, this use of the Grid is not a form of RoA, since it does not follow any “action” performed by the students. Yet, it is still an exercise conducted in a “detoxified” environment, where the stakes are lower, and one can take the time to practice the skills without the pressing demands of action. In contrast to the meditative review, this use of the Grid is appropriate for trainees who do not yet have an active clinical practice (or even laypersons). Furthermore, since the skills that are being trained are *formal*, they can be applied to any kind of content: it could be movies (as in Chapter 2), but also fairytales, myths, novels, or episodes from a person’s everyday life.

Bion (1963) compares the psychoanalytic game to the exercises of a musician: “Such an imaginative exercise is closer to the activity of the musician who practises scales and exercises, not directly related to any piece of music” (p. 101). The analogy with “the musician’s scales and exercises” for “extra-sessional work” (p. 73) often comes up in relation to the training of CR skills in therapists. Casement (1985/2014), for instance, uses the same analogy, when he writes about the importance to “‘play’ with” the “clinical material outside

of the session," as a way to "develop a more subliminal use of the internal supervisor when we are with a patient":

A musician plays scales, or technical studies, in order that these can become a natural part of his technique.

So too in psychotherapy: when a therapist is 'making music' with a patient he should not be preoccupied with issues of technique. That technique can be developed by taking time, away from the consulting room (p. 34)

Although the deliberate practice of skills should take place not "in" action (i.e., in the concert hall or the consulting room), but "away from" (if not "on") action, at the same time it is important to remember that these exercises are not an end in itself, but just a means to improve the "performance." Just as "a musician's exercises facilitate his capacity to perform *an actual musical creation*" so the "psycho-analytical game may develop the analyst's intuition ... in preparation for *the work required of it in analysis*" (1965, p. 130, emphasis added). Thus, for this kind of exercises to be useful, we have to postulate a cycle of RoA feeding back into RoA: "What psycho-analytic thinking requires is a method ... that will enable work to be done in the *absence* of the object, to facilitate further work in the *presence* of the object" (p. 44, emphasis in original). Yet, at the same time, we also want the therapist to come back to action with the necessary "naivety." We want to avoid the case of "a musician who, aware that the composition of which he was giving a concert performance was made up of scales and arpeggios, began to play it as if it were an exercise in scales and arpeggios" (p. 75). Thus, we may say that what is needed is a *two-way transformation*. The first is the one by which the concrete experience is "transformed" into a series of formal components to be exercised separately. The other is the one by which the exercise on these formal components is converted back into the naivety of action. For although formal tools supporting this exercise, such as the grid or the operators model, "are employed *away from the tense situation*," still an "explorer's knowledge of instruments must be such that he can use them in situations of stress" (p. 75, emphasis in original).

The hope that RoA will feed back into RiA underlies our RCT (Chapter 2). The exercises that we proposed to students, in fact, mobilize a kind of deliberate reflexivity which is not the one we would wish them to mobilize in action. We assume, however, that by taking time away from sessions to develop their skills, students may integrate them in such a way that they may come to their aid *at an implicit level* during action. Although there is currently no evidence that this is indeed the case, this is the same assumption made by Bion:

Use of the grid makes it possible to scan the analytic material methodically. *At first* it is wise to use it retrospectively so that nothing should interfere with the analyst's absorption of the evidence ... [but later, practice] in review of analytic work by this method leads quite soon to facility in *unconscious and immediate* [i.e., implicit] assessment of evidence as it unfolds in the session (1965, p. 128, emphasis added)

If the grid substitutes "creative [i.e., spontaneous, implicit] thinking for laborious and frequently meaningless [i.e., deliberate, explicit] note-taking," this exercise is supposed to make it "increasingly possible to arrive at conclusions instantaneously [i.e., implicitly again]" (p. 73). That this second transformation is possible is something that, as with most things in psychoanalysis, one should try first-hand in order to believe: "No one can understand the grid or transformations without experience of their use as part of psycho-analytic practice" (p. 75).

But let us suppose that this assumption is misplaced, and some of the "deliberateness" of RoA leaks back into RiA. Let us suppose, in other words, that these two registers (RiA and RoA) cannot be kept so rigidly distinct, and that, for having taken part in our training, a student now happens to think of the operators *mid-session*. We argue that even such a circumstance would not be as counter-productive for the therapeutic process as one might fear, for several reasons. First, as noted in Chapter 2, a certain mechanization is part of the natural process of skills acquisition, and is supposed to get reabsorbed with time. If a student fresh out of "operators school" thinks like a "psychoanalytic machine," more clinical

experience and supervision will smoothen them out; just like a student out of driving school cannot be blamed for lacking the naturalness of the driver they will be in so many years. Second, the student can think about the operators in-session in two ways, which again reflect the deductive/inductive divide. If they *start from* the operators and try to apply them, then there is indeed the risk of turning the elements of the clinical material into the nails to be proverbially hammered. But if a student is reminded of an operator by something that emerges from the clinical material, then the harm is lessened. Let us suppose, for instance, that a patient comes up with a sharp opposition, describing themselves and her sister as “the opposite” on some personality feature. Here, the therapist may be reminded of the Dialectical operator, as a structure that the patient is using to bring meaning to their experience. Recognizing this conceptual operation as such, the therapist may not only pay attention to this dialectical opposition, but come back to it by stacking more conceptual operations of this kind on top of it – for instance, by noticing how some other feature, which the sister displays and the patient does not, forms a dialectical “chiasmus” worth reflecting on.

These mental acts, by which a student “touches ground” with the operators model while reflecting *in action*, will last the fraction of a second; and may become even more contracted with practice, further reducing the gap between RiA and RoA. Not only they are not an interference in the therapeutic process grave enough to make the centipedes stumble, but they might provide one with *a map for the meaning structure that is being woven by the patient and the therapist*. Furthermore, if, as argued in Chapter 3, a therapist is never really “without memory and desire,” for a frame is always present, then the use of the operators model as crystallized knowledge would be in any case be less invasive than the one that is commonly made of public theories, which come with a cumbersome content of their own. The operators instead are empty. They do not tell one how they are to be applied (at what time, on what elements of the clinical material, or in what combination). The freedom remains in the therapist’s hands, and with it the clinical responsibility.

3. What are analytic therapists thinking *about*?

The third question that emerges from this thesis as a whole concerns the *content* to which forms are applied in CR. As noted, the key theoretical and methodological decision that we have taken in developing our model was to adopt from Kant, via Bion, a distinction between content and form. This implied suspending the attention to *what* is being operated on, and focusing only on the *forms* of this operating. This Kantian distinction is found in Bion (Chapter 1), but also in Jung (Chapter 4). Bion's distinction between preconceptions and realizations (or functions and factors), in fact, is just as "Kantian" as Jung's distinction between "archetypal form" (1940b, para. 196) and "archetypal idea" (1954c, para. 6, footnote 9). Jung uses the same Kantian image of the empty form that has to be filled in by content: "The unconscious supplies as it were the archetypal form, which in itself is *empty* and irrepresentable. Consciousness immediately *fills it* with related or similar representational material" (1954, para. 476, emphasis added). If Bion's theory of functions was based on a search for "the invariants" (1965, p. 2), so was Jung's theory of archetypes¹⁰. Until now, we have referred to the distinction between content and form as "Kantian." However, in light of our model, we can recognize it as nothing other than an application of the Formal operator. It is the hallmark of this operator to extract content from form, similarity from dissimilarity. What is common to Bion and Jung, then, is their reliance on the Formal operator for theory-building purposes. But our model, too, was developed mainly through the Formal operator, since the theory-building operations by which we spelt out functions, or declared some of them to be revolving around the same core idea, were all formal operations. Identifying an "operator," as a collection of mental acts, entails that activity of bundling together objects which we have identified in Chapter 4 as the prehistorical equivalent of formal thinking (Hoffman, 2003).

¹⁰ However, Jung's notion of "archetype" is more comprehensive than Bion's "function" (or our "operator"), since it covers the a priori forms of representation at both a *cognitive* (ideas) and a *visual* level (images).

But precisely in light of the brief history of the Formal operator that we have proposed in Chapter 4, it becomes clear that this way of thinking cannot be called "Kantian," any more than it can be called "Platonic." Indeed, indirect proof that Bion and Jung are relying on the same Formal operator is provided by their referring to Plato as well as to Kant¹¹. Jung explicitly brings his notion of archetype back to Kant's "a priori categories or to Plato's *eida*" (1939, para. 527). Similarly, Bion (1965) links "the meeting of pre-conception with realization to give rise to conception" with "the concept of Platonic forms" (p. 106): "I claim Plato as a supporter for ... the inborn anticipation" (p. 138). Plato's epistemology, as well as his ontology (e.g., the myth of the Demiurge), are based on the same distinction between the formless material substrate (*khôra*) and the *eida* that come to "shape" it.

The application of the Formal operator to the problem of CR allowed us to outline the forms which remain invariant, while keeping content out in its *infinite variation*. No model of CR, in fact, could ever describe all the ways in which patients' stories come, for this is the multiplicity that escapes any formalization. It is this "multiplicity" that Bion wanted to factor out, by seeking a language adequate to cover "all situations that are basically the same" (p. 125)¹². The grid, too, had as its objective to allow expressing the rules of analytic CR "without becoming lost in the richness of content that tends to obscure similarities of form and function" (Charles, 2002, p. 435). As "important" as "the content of the communication" is "in analysis," Bion made the conscious choice to factor it out, depending as it does on the particular clinical "material" (1965, p. 35). Like us, he was concerned not with content, but with formal processes, such as the transformations that the content "has undergone" (p. 35).

¹¹ As seen in Chapter 4, Jung uses "forms" (1918, para. 21) and "patterns" (1958, para. 1271) synonymously, when describing recurrent ways of thinking. But "patterns" is precisely the core idea of the Formal operator.

¹² This is needed also to avoid the Babylon mentioned in Chapter 1: "analysts are constantly using different terms to describe situations that appear to have the same configuration. I want to find ... a solution that will dispose finally of the diversity of terms" (Bion, 1965, p. 124).

3.1 Limits of formalism

However, the use of the Formal operator has its disadvantages. The main one, as it can be readily guessed, is the disregard of content. But what this disregard of content implies, in turn, is a potential disregard of those meaningful *differences* that exist between elements, but which risk to be sidelined in the search for commonalities. Borrowing the term from Meehl (1983), we may say that the Formal operator stands in a “pragmatic tension” (p. 389) with the Mimetic operator, insofar as focusing on general commonalities between two objects takes the focus away from the specific or unique ways in which they may still differ. *Si duo faciunt idem, non est idem* (if two do the same, it is not the same).

Since the Formal operator constitutes the very basis of the operators model, then our model is bound to lean on the side of commonalities, with the risk of neglecting differences. In Chapter 1, for instance, we acknowledged that differences are bound to exist in the ways in which, say, Jungian and Freudian therapists develop meaning; but said that we were going to set them aside to focus on what was *common*. Similarly, we referred there to some of the similarities that our model allows to identify between the CR of analytic and non-analytic therapists. But in that case, too, one might object that the psychoanalytic notion of “transference identification” and the person-centered notion of “empathy,” for instance, although *similar*, are not quite the same thing. Noticing that two things are “not quite the same thing” is an exercise in mimetic thinking (“anxiety attacks” not being quite the same thing as “anger attacks,” to use the clinical example from Chapter 1). But as noted, the mimetic way of thinking stands in a pragmatic tension with the formal one through which our model was developed. We acknowledge, then, that these and other differences *exist*; but submit that we had to leave them in the background, to be able to develop a model at all.

The same applies to history. Chapter 4 relied on the use of the Formal operator (in conjunction with the Genealogical operator), to trace the recurrence of certain “invariants” across the Western canon and back to their very origins.

Here, too, it might be objected that the use of the Enkratic operator by a contemporary analytic therapist, for instance, is not quite the same as the use made of it by Galen's father. But these differences – whose existence we acknowledge – can only be appreciated by factoring *content* in, which is what we set out not to do. This is why, just as our model of CR leans towards *commonality* (as opposed to *difference*), so our historical account leans towards *continuity* (as opposed to *change*). One can appreciate the historical innovation that Freud brought about with psychoanalysis, for instance, only by considering the particular contents to which he applied those ancient thought-forms (cf. Davidson, 1987). We have already used the example concerning Parmenides to Epicurus to illustrate the transformation that can ensue from the application of the same form to a new content. But another example is the very concept of "unconscious." From a formal point of view, this concept can be seen as the crystallization of a dialectical operation by which, starting from element A ("conscious"), a new element $\neg A$ ("*un*-conscious") is generated through negation: $f(A) = \neg A$ ¹³. Historically, operations of this kind are anything but new: the philosophical notion of "non-being" being a ready example. And yet, what unprecedented vistas of meaning were opened in the history of ideas by the fact that this dialectical function was applied to this *new content*, namely, "consciousness"!

To summarize, the neglect of differences and changes is a "vice" of our model that results from the magnification of commonalities and continuities which follows from the very thinking style through which our model was developed. This thinking style, by its nature, ignores content; and with it, the differences that exist and the changes that occur in "objects." But this formal approach, which has taken us some way, must be abandoned if we are to go any further. If differences and

¹³ Concepts of this kind abound in psychoanalysis (e.g., Bion's "minus K"; 1962). This trend continues today among psychoanalytic researchers: e.g., the "*un*-common factor" (Storck, 2024). When not strictly negated, A can also be reverted, as in Freud's "*counter*-transference" or Lacan's "*ex*-timacy." Jung's "Shadow" or Lacan's "lack" are also negative concepts (arrived at through the negation of "light" and "presence," respectively).

changes can only be appreciated by factoring content in, then this is what has to be done going forward. To use an analogy, let us consider cooking. If one wanted to describe the cooking process through the Formal operator, then one could start describing all of those cooking “acts” (or “operations”) which are common to the realization of different meals. One could thus identify sets of skills, such as those involved in *cleaning* the ingredients; *cutting* them; *boiling*, *frying*, or *marinating* them – and so on. Surely, this approach would allow one to get far enough, for many recipes rely on similar operations. One does not need to know anything about the ingredients of different pasta recipes, for instance, to know that the pasta has to be boiled before adding the sauce. But how far would such an approach take one? If the objective is to transmit cooking skills to trainees, then at a certain point one will have to start talking about ingredients, i.e., “factoring in content.”

Translated in a clinical context, this means that as fruitful as the distinction between content and form may be, the content in everyday therapy matters: “This exclusion of content is artificial, to simplify exposition, and cannot be made in practice” (Bion, 1965, p. 35). In the case of CR skills, in particular, factoring in content assumes epistemological poignance, for what we are producing are not meals, which can be “good” (as in “good to taste”) or “bad”, but pieces of knowledge, which are “true” or “false,” “meaningful” or not. Factoring in content thus raises the *problem of meaning and truth*, which we have tried to hold off until now, but which is bound to impose itself to anyone interested in working out the question of CR. That is why, although we started this thesis from the outset with a focus on the logic of discovery, in Chapter 3 we were forced to say something about the logic of justification, and we mentioned in this regard the role of theory, on the one hand, and of the patient’s (and therapist’s) “living souls,” on the other. The latter, somewhat evocative expression was used in an attempt to gesture towards what it is that grounds the process of CR: what it is that analytic therapists, and their patients, are thinking “about.”

3.2 Meaning and truth

Factoring in content thus means opening the door to the problem of justification. The question of justification, in fact, can also be rephrased as: Is the application of *this* form to *that* content leading to an operation that is "true"? Without content, this question cannot be posed. Forms (operators) are "meaningless" in themselves (cf. Chapter 1) or, to use a Kantian expression, they are "blind." A function is "devoid of meaning," since it "receives its accretion of meaning from experience" and thus "cannot properly be described as true or false" (Bion, 1965, p. 53). Pre-conceptions "await a realization ... before they can be said to have meaning" (1963, p. 88). But meaning does not lie in content alone, either. For the "raw" clinical material is just as meaningless as the pure forms. If the operators do not contain instructions on how they are to be used, the material does not contain instructions as to how it wants to be organized. It is only through the "mating" of the form with an element of the clinical material that an operation is generated which may be said to be true or false, meaningful or meaningless. *It is only from the conjunction of form and content that meaning arises.*

This is not to say that meaning does not have an independent reality. Meaning may "exist" in the raw material, but to be *brought forth* (apperceived as such, represented to consciousness), forms are necessary. To use an analogy, differences in wavelength of light rays exist in reality; but to be perceived as colors, eyes are needed. This is why, throughout the thesis, we have avoided a language that could lead one into thinking that meaning is merely a creation of the thinking process itself. We have avoided, for instance, expressions such as "meaning-making," which implicitly suggest that meaning does not pre-exist the act that "makes" it. We have preferred expressions such as "bringing forth" or "developing" meaning, which are more consistent with our "realist" epistemological position, according to which meaning is not created, but rather uncovered, carved out, liberated. Meaning is not interpreted in the hermeneutic sense of being constructed, but rather pointed out, clarified, explicated.

One of the unwanted consequences of the theory model, in fact, is that it gives the process of CR an appearance of arbitrariness. Popper's (1962) example is a case in point. If, faced with the clinical material, a therapist has the liberty to shape it however they want, by applying now Freud's theory of the Oedipal complex and now Adler's theory of the inferiority complex, then this implicitly suggests that there is no meaning inherent in the material – no "logic of the case" (Chapter 5). This process of titling the case conceptualization according to one's theoretical preferences can be compared to the application that children make of molds to the sand. By applying now a turtle-shaped and now a star-shaped mold, the sand takes different shapes, provided the molds are pressed with sufficient force. But since there is nothing in the sand itself that has the shape of a turtle or a star, then this construction is bound to be washed away with the next wave. This image can be contrasted with the one proposed by Freud, comparing analytic CR to an archeological excavation. The archeologist uses their utensils to take the dust off a fossil, but the fossil is not "created" by the utensils. Unlike the children's molds, the archeologist's utensils do not transfer a shape of their own to the material to which they are applied, but rather uncover a shape that already exists. Similarly, the operators uncover the logic of the case; they do not create it. So if the clinical material does not contain instructions as to how it is to be organized, it is not entirely "formless" either. The purpose of fluid CR is to unveil this sleeping form, which permeates the case but is not the reflective agents' making. At the same time, however, the prior existence of meaning should not be intended naively either, as merely given. Unlike the fossil, meaning is not an object to be simply unearthed; for there is something in the act by which it is uncovered that also "develops" it into being. That is why, in Chapter 5, we took a distance from both the positivistic position which views meaning as an object to be found, and the hermeneutic one which views it as a "story" constructed through discursive practices. Our loom analogy (Chapter 3) served to suggest that, although the logic of the case exists like an "object," it is also *woven out*, with each new session, like a "process."

3.3 Bion's O

It is precisely to account for this paradoxical nature of the object of psychoanalytic investigation as something between a "thing" and a "process" that we added a fifth chapter in which a Hegelian, as opposed to Kantian, account of CR was proposed. But to understand why such a move *beyond Kant* is needed, let us introduce Bion's concept of O.

What is the content that is entered into the therapist's functions and which we are supposed to be factoring back in? So far, we have talked about "clinical material," and defined it in terms of pieces of information. But information about *what*? This question brings us into a closer consideration of the underlying *reality* that CR is ultimately concerned with. This reality is what Bion indicates by the name of "O." The formulation of this concept, which figures at the end of his trilogy on CR, in *Transformations* (1965), is often taken to mark the passage from the "early" Bion, known for his formal language and his discussion of *epistemological* questions (K), to the "late" Bion, known for his mystical language and his discussion of *ontological* questions (O) (Ogden, 2019). This shift from K to O is also reflected in this thesis, in the shift from the development of the operator model (Chapters 1-4) to our discussion of the logic of the case (Chapter 5).

So what is O? O is short for "origin" (Bion, 1965, p. 15), as in *that which stands at the origin of the clinical material* – an unmistakable verbal marker of the Genealogical operator. If a patient brings a dream to analysis, but the therapist infers that the dream is a response to the imminent weekend break, then the latter is O, as the origin of the patient's verbalization. O can thus be defined as that which the patient "is talking about" (Bion, 1965, p. 123, emphasis in original), in the sense of latent meaning – in this case, for instance, the patient was really "talking about the week-end break" (p. 17). However, O can also indicate the meaning that underlies acts, as opposed to verbalizations. Bion uses the example of a patient who enters and "shakes hands" with the therapist (p. 12). What is the meaning of this act? Judging by the available evidence, the therapist may conclude that "the handshake is

intended as denial of hostility" (p. 13) or that the patient experienced "my handshake" as "a sexual assault on him" (p. 13). One or the other of these scenarios – and in some cases, indeed, more scenarios at once – would be the "O" of the act.

CR can thus be described as the process of inferring O. The clinical material is information *about* O. But there is a gap between the clinical material and the underlying meaning. This gap has to be filled through interpretation. For instance, the idea that the patient is talking about the week-end break, and not the dream, is "a solution" that "cannot be arrived at by any ordinary view" of the patient's "statements" (p. 17). In the language of Chapter 3, this inference cannot be *deduced* from the clinical material, but requires certain conceptual (i.e., interpretative) operations, which are aimed at uncovering meaning¹⁴. Bion thus sees CR as an effort to *approximate* O by building a verbal representation of it, through a mental transformation of the available facts. Therapists are concerned with building *a reflection of O* in their mind, like a lake reflects the trees on the bank (p. 47).

Bion's concept of O provides an epistemological "ground" for CR, i.e., a name for what is being operated *on*. This concept implies a form of realism similar to the one we have espoused and defended above, in that Bion describes O also in terms of "absolute reality" (p. 147) or as being composed of "certain facts" (p. 15). Bion seems to assume that something like the patient's handshake, for instance, has an intrinsic meaning, which our interpretative efforts are aimed at approximating. This form of realism distances Bion's position from radically constructivist accounts of CR, which would imply that there are no "facts" existing independently of the discursive practices of the reflective agents involved. Yet, at the same time, Bion's account is not epistemologically naïve, but rests on an awareness of the structural difficulties in *accessing* such facts. It is to the nature of these difficulties that we shall turn to now.

¹⁴ Despite Bion's use of the expression "I deduce that" (1965, p. 17) which reveals the influence of the theory model (cf. the "Implications" section).

3.3.1 Kant's thing-in-itself

When Bion "assigned O to denote the reality, the impressions of which the individual submits to the process" of transformation, he "had in mind what Kant describes as" the "thing-in-itself" (p. 31). This notion is to be understood in the context of Kant's distinction between phenomenon and noumenon. If we take a chair as the example of an object, then there are certain sensorial impressions that the chair has on us (the impression of a certain color, shape, consistence). This is the chair as *phenomenon*. However, beyond how the chair appears to us, we can postulate the existence of the reality that the chair is *in itself* – i.e., before it is submitted to the categories through which we represent it to ourselves. This is the chair as *noumenon*. The etymology of "noumenon," in fact, indicates that which is *thought* about, as opposed to that which *appears* to us ("phenomenon"). We *think* that there must be something like a chair-in-itself, although we have no "commerce" with such an entity, in that it does not appear to us. In this sense, the thing-in-itself is *unknowable*. For truly knowable are only the phenomena.

Bion applies this distinction to CR. He compares the clinical material to the phenomena: i.e., the impressions received during a session (e.g., what we *observe* the patient do, or hear them say)¹⁵. This is the part that can be known. On the other hand, Bion equates O with the thing-in-itself. Accordingly, Bion declares O to be "unknowable" (p. 140). O "can never be known" (p. 12) because it is, by definition, what lies *beyond* the verbal representations that reflective agents make of it. As in the example of the handshake, something "occurred during the session [O]," but what "the absolute facts are [*in themselves*] cannot ever be known" (p. 17).

¹⁵ Bion (1965) indicates also the therapist's representation as "the phenomena counterpart of O" (p. 40). But we find it more logical to identify the "raw" clinical material with the phenomena. Although the material which the patient brings already is their "view (representation) of certain facts which are the origin (O) of his reaction" (p. 15).

Beyond the curtain

Bion's idea that reflective agents ever only deal with verbal representations of O, and never with O itself, implies a gap between the reflective agents and O which proves philosophically problematic. This view of O, as Bion admits, seems "to imply a gap between phenomena and the thing-in-itself" and suggest that "a curtain of illusion separates us from reality" (1965, p. 147). If a curtain separates us from reality, then it may appear more rational to content ourselves with discussing what lies on *this side* of the curtain, and is visible: To lay down any claim about what lies on the *other side*, and escapes us. In a Kantian vein, the fact that the thing-in-itself is beyond reach, becomes an argument for abandoning any "metaphysics" (improper speculation on what is unknowable) and focusing only on the conditions by which what is given to us, is given to us. This is the choice we have adopted also in this thesis. From the outset, we suspended the question of truth and meaning (linked to the epistemological problem of justification and to the ontological problem of reality), and focused on the a priori categories by which phenomena are known. We laid the noumenon *out of* our scientific discourse, almost as a condition for our discourse to be "scientific."

This epistemological position directly informed also our methodology. In the RCT, for instance, we stayed clear of the question of whether the student's inferences were "right" or "wrong" (Chapter 2). This means that we stayed clear of O, since an operation is only "true or false *in its relationship to O*" (Bion, 1965, p. 53, emphasis added). As long as the inferences were conforming to certain a priori forms, they were awarded points through the POCS-6. However, this position can lead to some absurdities. A student, for instance, pointed out some numerological connections in the clinical vignettes (e.g., the recurrence of the number 2), and was awarded a point for formal thinking. Yet, these connections realistically brought out no meaning that was *intrinsic to the case*. If we are free to raise a curtain in front of our eyes and decide not to look at what lies beyond it, in truth a logic still exists to Tara's or Edith's case, which is approximated or not.

We can see, then, how a drift of this epistemological position is to dissociate reflective agents from reality in a way that goes against the realism to which we are committed. To illustrate this point from a different angle, let us return to the distinction between *giving* meaning to events or *taking* it out of them. Building on a Kantian epistemology, Jung opts for the former linguistic register when he writes about the “forms we use for *assigning* meaning” (1954, para. 67, emphasis added). In his discussion of the “symbolic attitude,” for instance, he characterizes it as “a definite view of the world which *assigns meaning* to events” (para. 819, emphasis in original). The use of this active verb (*assigning*) follows precisely from Jung’s Kantian outlook. The act of signification whereby properties are brought into synthesis is imagined to be *on the side of the subject*, and not of the thing-in-itself:

Seen purely theoretically, this dream image can mean anything or nothing. For that matter, does a thing or a fact ever mean anything in itself? The only certainty is that it is always man who interprets, who assigns meaning (Jung, 1931, para. 93)

We see here how a certain interpretation of Kant’s thing-in-itself can lead one to question the independent subsistence of meaning. In this view, meaning does not adhere to the object, but is merely laid upon it. Therefore – it is concluded – *all that counts are the interpretative categories* by which meaning is generated (the operators). In contrast, the conclusion to which we arrived is the opposite: *meaning is all that counts*, and the operators are merely the means to let it emerge. It is not true that an element of the clinical material “can mean anything or nothing.” For a rational configuration of elements exists before being named as such, just as the differences in wavelengths exist before being appraised by the eyes as colors. This rational configuration is what we have called the “logic of the case,” while “meaning” is rather the result of the *becoming self-aware* of this logic in the reflective agents involved (Chapter 5). The purpose of the operators is not to generate meaning for meaning’s sake (i.e., to organize the clinical material in this or that arbitrary fashion), but to *bring forth O*.

Winning over O

Another problem with Bion's equating of O with Kant's thing-in-itself concerns the question of O's "(un)knowability." In Bion, ambiguity exists on the matter. On the one hand, he suggests that O would be *totally* unknowable, and pictures K and O as travelling on parallel tracks ("It is impossible to know reality for the same reason that makes it impossible to sing potatoes ... Reality has to be 'been'"; 1965, p. 148). But on the other, he admits the possibility of acquiring parts of O. Bion quotes Milton's verses: "The rising world of waters dark and deep / Won from the void and formless infinite" (p. 151). Through these verses, the process of discovery or clarification is reformulated by Bion as the process of *winning over* parts from O through K, where K is "the procedure by which something is 'won from the void and formless infinite'" (p. 151) and O is that "'void and formless infinite'" itself "from which is 'won' the object that is known" (p. 154). For Bion, this formula applies not only to analytic CR, but to K as such:

The configuration which can be recognized as common to all developmental processes whether religious, aesthetic, scientific or psycho-analytical is a progression from the 'void and formless infinite' to a 'saturated' formulation which is finite ... Confronted with the unknown, 'the void and formless infinite,' the personality ... fills the void (saturates the element), provides a form ... and gives boundaries to the infinite (1965, p. 170-171)

But the question then is: *How could anything be won over from O, if O was totally unknown?* In our view, it is more logical to admit that there are parts or aspects of O that are known, which can be used as leverage to win over those that are still in the dark, much like one can win over fish using a bait. For if O was totally unknown, then it would have nothing to do with us, and us with it. Instead, it would seem more consistent to admit that parts of O *can* be known, while others always escape our knowledge. In this context, analytic CR may then be seen as a method that is structured around the whole task of winning over O from the clinical material.

The operators, in fact, seem to serve precisely the purpose of allowing one to carry the dark over to the light. They are all ways of fishing O, or of throwing an eye to the "dark side of the moon." The dialectical operation by which A is turned into $\neg A$, for instance, serves to elongate one's thought onto the areas that normally lie beyond it. Similarly, the "stretching" of language through metaphor serves to catch what lies *beyond* (i.e., O): "We would not use metaphorical language the way we do if there were nothing beyond it – if there were nothing new that metaphor is uniquely capable of disclosing" (Driscoll, 2012, p. 26). The use of the Investigative operator, too, is a way of reaching out from the known (the available "clues") to the unknown (that which they are clues *of*)¹⁶. In a Peircean perspective, this process is admittedly tentative, but not outright impossible. As Bion writes, I may not know what the patient "is talking about," "though I can always attempt to guess" (p. 31). There are an infinite number of facts that therapists do ignore about their patients, but there are also some that they know and can use as basis for their inferences. *O encompasses both*.

A more logically coherent position, then, would be to assume that O constitutes *the totality of known and unknown clinically-relevant facts*¹⁷. This position helps to make sense of the paradox that Bion (1965) points to and by which: "It is as if in one view man can never know the thing-in-itself, but only secondary and primary qualities; whereas in the other view he can never 'know' anything *but* the thing-in-itself" (p. 40, emphasis in original). The idea that O is partly known and partly unknown is also in line with Bion's reference to Plato. In fact, Bion refers to Plato's *eida* as a precursor of his preconceptions, but also of O. The idea of Beauty, for instance, is "known" through the experience of beautiful objects. But this means that there is something in beautiful

¹⁶ The idea that all operators serve to illuminate a "blind spot" (e.g., the origin we do not think about [Genealogical], the subjective implication we tend to cancel out [Self-reflective]) echoes in the hypothesis that we will formulate later of "decay factors" (cf. the section on "Future research").

¹⁷ Bion's "O" can then be compared to Jung's "Self," which stands not for the unconscious, but the totality of conscious and unconscious processes.

objects that makes the idea of Beauty intelligible through them. It is not true, then, that "reality is not something which lends itself to being known" (p. 148). The objects do lend themselves to be known, although (firstly) in an opaque way.

Similarly, this is how we can interpret Bion's reference to the neo-Platonic idea of *emanation*. Building on Meister Eckhart, Bion makes a parallel with the transition from the Godhead (O) to God (clinical phenomena), where the former "cannot be the object of Knowledge until there flows out from it" the latter which instead "can be known" (p. 162). But in this context, Bion also admits the possibility of a *mystical knowledge of O*, as a return to the Plotinian "One" (p. 138). Bion opposes this possibility precisely to the Kantian view according to which "the gap" between us and O "cannot be bridged because the nature of the human being precludes knowledge of anything beyond phenomena save conjecture," adding that from "this conviction of the inaccessibility of absolute reality the mystics must be exempted" (p. 147). So for the mystics, O *can* be known: "there is an ultimate reality with which it is possible to have direct contact" (p. 139). Although this form of knowing does not pass "through the medium of ordinary language" (i.e., representations; p. 147), but is a direct experience, analogous to Dante's vision of God in "canto xxxiii of the Paradiso" (p. 138). Where the "curtain" that normally separates us from God would also be a "protection against" that unbearable "truth" (p. 147).

For our part, however, we do not see the need of posing mystical knowledge as the only exception to the unknowability of O. For that would entail again, quite literally, a return to a mystique of practice competence. Rather, if O "emanates" in the clinical material, then it is possible to back-trace it through the "clues" that it leaves there, and a rational account can be given of this inferential process. One can work back to O from its derivative signs in a manner more similar to Peircean abduction than mystical rapture¹⁸.

¹⁸ Although religious preoccupations are not alien also from Peirce: "Peirce's ideas of God, resp. his idealism are not acknowledged by a majority of his followers ... the abductive thinkers must be receptive

Process-in-itself

Another problem with Bion's equating of O with Kant's thing-in-itself concerns the dynamic nature of O. What Kant has in mind, with his distinction between phenomena and noumenon, are the inanimate objects of modern physics. To go back to our example, the chair has a phenomenal appearance, as well as an "in-itselfness" which we postulate. But the "chair-in-itself" is a reality with which we have no commerce not only in the sense that it is unknowable, but also in the sense that it is an inert reality, which does not reach to us, as we reach out to it. Unlike the Nietzschean abyss, the Kantian thing-in-itself does not "stare back": it stays where it is, unbothered by our attempts to know it. In contrast, as noted in Chapter 3, the object of analytic CR is "suffused with the characteristics of life" (Bion, 1962, p. 26). This means not only that the "living souls" of reflective agents are ever-changing realities that evolve through time; but also that these realities "respond," as it were, to the attempts that are made to know them. When a reflective agent formulates an interpretation about O, O does not remain indifferent to it. Rather, as argued in Chapter 3, it *responds*: by originating a sense of insight, an increase of associations, or a resurfacing of memories, when the interpretation is correct; or by originating the tediousness of analytic impasse, long silences, and a sense of one's words being "empty," when incorrect. These analytic events can be seen as the answers that O provides to our questions. Bion (1965) describes this dialogue as concerns the therapist and their own "living soul":

The impression was often difficult to express in words. Sometimes it was strong, but hard for me to formulate without feeling my interpretation, even to myself, was fanciful. At other times I was satisfied that my formulation was a correct translation into words and that it was a valuable communication; such occasions made interpretations to the patient likely to be analytically sound. (p. 22)

towards the new idea that is offering itself" (Saller, 2017, p. 188). Bion (1965) also mentions Newton's "mystical pre-occupations" (p. 109).

To reformulate what we said in Chapter 3, then, O can be said to be the ultimate *context of justification*: the reality with which the use of the operators is in constant negotiation. O provides “feedback” to the words that reflective agents lay on it, and this feedback is used by them in turn to approximate O with better words. Just as for Peirce, the *emotional reaction* that reflective agents have to their own inferences is key (Saller, 2017). Approximating O in this sense does not involve only a detached process of intellectual reconstruction, but a living process that Bion also describes as “becoming” O (p. 156). Unlike Kant’s thing-in-itself, O is not like a dead rock indifferent to whether a scientist “knows” it or not, but a *living interlocutor*, more like a killer addressing letters to the police, leaving a trail of clues as well as feedback to their solution. We have used above also the metaphor of the animal to be tamed or the fish to be caught. But in light of the reversal of roles proposed in Chapter 5, we might say just as well that O is the tamer, we are the fish, and understanding is the bait.

We have seen in Chapter 5 how the logic of the case, far from being a static beyondness which stands facing the reflective agents, is a dynamic process which *expresses itself through their very words and acts* (e.g., lapsus, acting out, recurrence of signifiers). It is something that *insists in* the people involved, and in this sense appears to question them, as a way to ultimately become self-aware through them. The case challenges or “provokes” reflective agents (asks to be known), so that they may be invested enough to engage in the process of figuring out its logic. It pushes for recognition, again like the culprit of a crime who is sending the detective on a quest. The Kantian thing-in-itself does not do any of that. The chair-in-itself does not question us or emerge through us. It lies in front of us, posing no problem, and consequently sparking no passion either, no interest as the object of psychoanalytic investigation. But if O becomes an object of psychoanalytic investigation it is precisely because it happens to bother us all the time. We may say then, to summarize, that O is not a “thing-in-itself,” but a “process-in-itself,” and especially one that has self-knowledge as its purpose.

The processual nature of O has direct implications for K. As Bion puts it (1967/1992): "In any session ... *[out of the] formlessness something evolves,*" and this "evolution is what the psychoanalyst must be ready to interpret" (p. 381). In other words, it is because O is a process, that K must be a process as well. K is like a fabric that is woven from an endlessly flowing thread (O). The difficulties in knowing O, then, do not come from its being inaccessible, but from *its lending itself to continuous re-signification*. It is not that the human intellect is "unequal to the task" (p. 140) of knowing O, but that carrying parts of O over to the light never saturates its darkness; giving it form never saturates its formlessness. O is not unknowable because it is inaccessible, but because it is *infinite*. In this sense, rather than fully unknowable, it is "never-fully-known." And it is for this reason that O is thought of as the Godhead. For only the Godhead, as an infinite reality, could spark that passion for K which is a condition for the CR process. Only something infinite could sustain an infinite inquiry: "the infinite" is "epistemologically prior to all else," because "only when a problem is intractable, or seems to be so, will it be felt to engage, and demand our most powerful efforts" (p. 152). O's infinity is what keeps us engaged in the effort to try "to know, or be curious, *about O*" (p. 152, emphasis in original). But the fact that O is inexhaustible, does not mean that it is totally alien to us or that it cannot be known *at all*. It just means that the object of understand is no "object" after all, but an infinite process¹⁹. O's "infinity" (p. 150) is the ultimate boundary condition. Faced with the asymptotic unfolding of the psyche (O), the process of representation (K) cannot but be asymptotical too. The "impulse to achieve saturation is unlikely to be fulfilled because in addition to the limitations of human capacity there is the factor of 'the void and formless infinite'", i.e. O, which constantly "supplies further stimulation" (p. 155).

¹⁹ The fact that the ideas of infinity and unknowability are closely associated in Bion's concept of O is a marker of the Skeptical operator. This concept, too, can be historicized. A fragment by Heraclitus famously reads: "You won't discover the limits of the soul, however far you go."

3.3.2 Hegel's idea

The foregoing explains why, starting from a markedly Kantian model such as ours (Chapters 1), we felt it necessary to move beyond Kant, towards Hegel (Chapter 5). The conception that analytic therapists have of their object of investigation (O), we argue, comes closer to Hegel's "idea" than to Kant's "thing-in-itself." This proposition can be better appreciated from a historical perspective. The concept of "unconscious," in fact, is an evolution of Kant's thing-in-itself. As Ellenberger (1970/1994) explains, following Kant's distinction between the "phenomena" and the "thing in itself, which is inaccessible to our knowledge," Schopenhauer "called the phenomena representations, and the thing in itself will, equating the will with the unconscious as conceived by some of the Romantics" (p. 208). Then, especially with von Hartmann's *Philosophy of the Unconscious* [1869], the "will of Boehme, Schelling and Schopenhauer finally took the much more appropriate name of unconscious," and "acquired the qualities of Hegel's *idée*" as "a highly intelligent although blind dynamism underlying the visible universe" (p. 210, emphasis added). The Romantic idea of "a hidden process underlying nature" composed of "irrational forces" which still work "toward a rational aim" (p. 233) is thus the blueprint of the psychoanalytic notion of unconscious. Bion's terms for O, such as "ultimate reality or truth" (1965, p. 139), clearly echo Hegel's or Schelling's notion of *Absolute*.

Using the operators model as a historical grid, we might say then that the Romantic move beyond Kant consists in an application of the Dynamic operator to the thing-in-itself. The main feature of Romantic epistemology, in fact, is an attempt to account for *living things*, as opposed to inanimate objects (Coleridge, 1848/2008)²⁰. This *dynamization of the thing-in-itself* is evident in Schopenhauer's will which, as noted in Chapter 4, has "the dynamic character of blind, driving forces" (Ellenberger, 1970/1994, p. 208). Just like our logic

²⁰ The hydraulic model of the Dynamic operator is also what provides a common ground between Eckart's view of the Godhead and the neo-Platonic idea of "ebullience" as is found also in Coleridge (Vallins, 2003).

of the case, Schopenhauer's will does not stand facing the reflective agents, but expresses itself *through* them: it "not only reigned over the universe, but also conducted man" (p. 208). But with Hegel, not only the Dynamic but also the Self-reflective operator is added to the equation. The "idea" is now a dynamic process tending towards *self-consciousness*.

Psychoanalysis bears the influence of Kant, but also of these post-Kantian developments. If "the interplay between the Enlightenment and Romanticism" traverses the whole "history of dynamic psychiatry" (Ellenberger, 1970/1994, p. 199), it is bound to shape also the view that psychoanalysis has of its object of investigation. Just as we can recognize the influence of Romantic epistemology in Bion's opposition between accounts modelled on "inanimate machine" and those modelled on "living organism" (1962, p. 81), so we can identify several points of contact between O and Hegel's idea.

One is the qualification of O/the idea as a *totality*. We have already suggested that it is more logical to think of O as comprising the known *and* the unknown. This suggestion echoes Hegel, for whom the unknown does not sit outside of the idea, but is contained in it as that which is not-yet-known. If Bion's O is modelled on Eckhart's Godhead, then the latter is also a *self-explicating totality*. As Jung makes clear, "it 'is becoming,' it is not yet Lord of itself, and it represents an absolute coincidence of opposites: 'But its simple nature is of forms formless; of becoming becomingless; of beings beingless; of things thingless'" (1951, para. 301). But just as we have defined in Chapter 5 Hegel's idea as the unity at the bottom of all oppositions, identity at the bottom of all differences, so Bion defines O as a totality of possibilities, which contains "the potentiality of all distinctions *as yet undeveloped*" (1965, p. 150). From O, "undeveloped distinctions evolve" (p. 163). Again building on Eckhart, O is also defined by Bion as "ultimate good and evil" (p. 149), and thus also light *and* darkness, rather than good or light alone.

This brings us to a second point of contact between Hegel and Bion, which is the use of "picture thinking" to express this totality (Parkinson, 1989, p. 288; cf. Chapter 5). Just as Hegel does with the idea, Bion (1965) uses a religious

language to denote O, not hesitating to call it "God, ultimate reality, the First Cause" (p. 159). The rhetorical register that Bion uses is borrowed from the logic of negative theology ("To qualify O ... I list the following negatives," p. 139). From religion also comes the idea of *contradictory totality*, since "the descriptions offered by mystics" of "the ultimate object often appear to be contradictory within themselves" (p. 150). For Bion, "religious formulations" are better suited to express O, while "mathematical" ones are better suited for K (p. 156). Especially interesting, as concerns picture thinking, is the expression of the dynamic nature of O through the image of the *incarnation*. In Hegel as in Bion, the becoming concrete of the idea/O is compared to the incarnation of God: "a particular part of the analysand, namely his 'godhead' ... must consent to incarnation in the person of the analysand" (p. 148). Becoming O means letting O *incarnate* in oneself. If in Chapter 5 we suggested that reflective agents are the means by which the logic of the case realizes itself, using a similar image, Bion says that O may be located in "a deity, of which people and things are 'incarnations'" (p. 152). Bion too, in fact, characterizes O as *a Person among persons*. He writes about the "incarnation of a part of an independent Person" (p. 139). This way of thinking O is not unlike Ogden's (1994), who writes of a "third subject," besides therapist and patient. As suggested in Chapter 5, judging by how it "behaves" in the analytic process, the logic of the case can indeed be seen not so much as the "object" of the CR process, but as its "subject" using the reflective agents as its means. This Hegelian reversal of perspectives finds support also in Bion's definition of O as thoughts in search of a thinker or, citing Pirandello, as "characters" in search of an "author" (1965, p, 102). The primacy is given to O over the reflective agents involved. Bion emphasizes "being passive, vis-à-vis ultimate good and evil [O], rather than being active" (p. 149); although the reflective agent has to "consent to 'becoming'" O (p. 148), which means that they retain their freedom in the process.

The fact that O is a third person means that it cannot be reduced to any of the reflective agents. It is true, in fact, that the only relation that one can entertain with O is the

"positive act" of "*being* O" (as Bion puts it: the "most, and the least that the individual person can do is to be it," p. 140, emphasis in original). And yet, not even the patient, for instance, can be said to "be" O, just as they are not the logic of their case (Chapter 5). One of the reasons is that O, as noted, is partly unconscious. And this is perhaps what Bion means when, using the Dialectical operator, he suggests that being "identified with it [O] is a measure of distance from it" (p. 140). Even if we consider O as what the patient is talking *about*, for instance, a patient in therapy is guided "by the need to give as direct a representation of O as possible" precisely "in view of its *obscurity* to him" (p. 22, emphasis added). But then, besides its partial unconsciousness, the other reason why the patient is not O is that O encompasses other reflective agents as well: notably, patient *and* therapist.

That O, on the other hand, is not the therapist either is evidenced by Bion's distinction between the O of the patient and the O of the therapist (p. 17), which he later abandons. So one cannot *identify* with O not only because O is partly unconscious ("I can identify myself with aspects of myself which I can know," p. 146), but also because, when "the stimulating experience is the analytic session itself, O is the same for patient and analyst" (p. 24), and thus transcends both. O is thus better construed as the totality of facts which concern the reflective agents involved *together* in a clinical case and which unfold before both of them. That is why Bion insists that "any O not *common to analyst and analysand alike*, and not available therefore for transformation by both, may be ignored as irrelevant to psycho-analysis" (p. 48-49). O must be "common to both" (p. 49)²¹, as it designates the "facts of the session" (p. 17) or "the facts of the analytic experience" (p. 49). It is "what took place" in a session (p.

²¹ We see here again Bion's ambiguity regarding the knowability of O. For he writes that O must be "invariably a fact *known* to analyst and analysand, or at least *knowable* to both" (1965, p. 48, emphasis added).

47) or “what is going on in the analysis” (p. 49), i.e., what is happening *between* reflective agents, not “in” any of them²².

If O is the totality of facts unfolding between reflect agents, then their transformation is also the result of a joint effort to understand O, and cannot be reduced to the CR process occurring in the head of any single reflective agent. This is another point of contact with Hegel. For, as suggested in Chapter 5, a case conceptualization is, properly speaking, what emerges from the *overlapping CR process* of the therapist, the patient and possibly the supervisor. If the therapist’s interpretation “should be associated with a K link” (an effort “to understand” the clinical material), then “it must be assumed that” the patient’s communications are also “intended to be part of a K link” (Bion, 1965, p. 129)²³. As noted in Chapter 3, it is not sufficient to focus on what is going on in the therapist’s head, for a patient comes to therapy having already done some thinking. As Bion puts it, the therapist “cannot ‘win’” an interpretation “‘from the void and formless infinite’ of the analysand’s personality, but only from the elements of the statement that the analysand has won from his own ‘void and formless infinite’” (p. 167). This is also why, for instance, a dream is always analyzed starting from what the patient makes of it (how they understand it).

As noted in Chapter 3, the idea that CR consists of a joint effort was not properly represented in this thesis, which focused on the therapist’s CR. However, the methodology that we adopted in Chapter 1 implicitly reflected this idea, insofar as we decided to consider as “instances of CR” also the supervisee’s inferences that the supervisor agreed with. Bion similarly notes that if “patient and analyst agree on an interpretation,” then, “it is no longer a private communication but has become public” (p. 31), i.e., shared. And the *shared*

²² Bion (1965) hints at this problem when, writing about O, he adds: “whether thought of as in the mind of man or outside it” (p. 155).

²³ If we are interested in what the patient “*does* to transform O” (p. 15, emphasis in original), then the analogy with painting to express transformation falls down in a similar way in which our loom analogy does, for it is “a model for a part of the whole – the part that takes place in the mind of the artist” (Bion, 1965, p. 46). But the patient “paints” too.

dimension of CR is what guarantees a better approximation to O, as a reality that is independent of any reflective agent.

This brings us to the final point of contact between Bion and Hegel, which is the idea that O is won over in a series of ascending stages. In Chapter 5, we have called them *reflective rounds*. Bion (1965) rather calls them "cycles of transformation" (p. 127). Starting from O, as "a psychic reality" capable of causing "a train of mental events" (p. 32), one moves to the patient's verbal representation of O, then the therapist's, then the supervisor's. These rounds may seem to proceed *away* from O, and thus from the "truth," as in the Platonic notion of mimesis. And yet, the reconstruction of O consists precisely in the process of looking *back* at this origin. Thus, this dialectical process can also be seen as the progressive *distillation* of O (as opposed to its "dilution"). Just like "the apparatus of pre-conception ... leads to repetition but in a new cycle" (p. 156), for the conception can be operated on again, so transformations can be saturated further. And in each cycle, a new clarification can come about which "entirely alters the configuration" of meaning (p. 170), although a progressive approximation to the truth is also expected²⁴.

To conclude, there are various indications that Bion thinks of the object of analytic CR in terms that come closer to Hegel's idea than Kant's thing-in-itself. But so do most analytic therapists, we argue. Analytic therapists do not think of the unconscious as a static and inaccessible reality of which nothing can be said, but as a process that stands *in a dynamic relationship to themselves*, and which can at least in part be won over by back-tracing its ripple effects on consciousness. For if the unconscious was literally just "*not-conscious*," how could anything ever be made conscious? The very process of *becoming conscious* requires some osmosis between the two. To say that O is totally knowable denies human fallibility. To say it is totally unknowable denies human progress.

²⁴ This process can be compared to the multiple endings in whodunnit movies where a detective formulates various explanations for the available evidence focusing on a different suspect. Each scenario is entirely new, but is also supposed to bring the case closer to its solution.

4. Limitations and future research

We have already discussed some of the limitations and directions for future research in the individual chapters. And considering the thesis as a whole, we have also reflected at length on the limits of formalism. As far as future research is concerned, however, we believe that a formal approach could still be taken a little further. Such an approach could be used to model the properties of operators. We have hinted throughout the thesis at the fact that operations are *chained* in everyday CR, for instance, but how does this process work? Properties of the operators, such as their iterativeness or combinatory power, could be formalized in a similar way in which the properties of grammars (e.g., recursivity) are in generative linguistics (Chomsky, 1989). The question of the “domain” of a function (as the set of values accepted as valid) could also be explored in a formal way. This could lead us to address one of the most important gaps in our model: i.e., the relation between types of configuration of elements in the clinical material and the function they call upon. In Chapter 1, we defined a function as a “condition-action sequence.” Yet, our model says little about the “condition” component of sequences, i.e., what triggers the execution of mental acts. As Bion (1965) writes, the “type of transformation will depend” on the therapist’s “assessment of the demands of the clinical situation” (p. 5). But what we ignore are precisely the criteria that competent therapists implicitly use to determine what operators to use, on what elements, and in what way. A more complex understanding of the operators may lead us to conclude, for instance, that these decisions are at least in part “influenced by theory” (Wolitzky, 2007, p. 19). Or it may lead us to identify, more generally, some of the dimensions of mastery in the use of the operators by competent therapists. A dimension of mastery may be, for instance, the management of what, building on Meehl (1983), we have called “pragmatic tensions.” In sum, our model is “an apparatus for further inquiry” which is to be “replaced by formulations to which the realization of psycho-analytic practice more closely approximates” (Bion, 1965, p. 14-15).

Another avenue for future research is the use of the operators model to develop tools supported by artificial intelligence (AI). Already in 1981, Teller and Dahl presented at a conference on AI an analysis of the steps involved in the recognition by analytic therapists of “structured patterns in what a patient says” (p. 394). Or even as far back as 1963, Ramzy suggested that “a system of notation” might be developed to “record” psychoanalytic data, and “punch” them on “cards and feed them to calculating machines” (p. 67). Now, there are reasons to doubt that such a “psychoanalytic machine” would be able to substitute human therapists. One of the reasons is that a machine may be programmed to execute conceptual operations (such as the Formal operations contemplated by Teller and Dahl [1981]), but not reflective ones, which depend to a greater extent on the therapist’s subjectivity (think, for instance, on the therapist’s exploration of their counter-transference through the Self-reflective operator). On the other hand, such a tool might be used by therapists for self-supervision (to stimulate their reflexivity through a sort of automated grid), or as an evaluation tool for research and training purposes. A computerized linguistic measure may be trained to recognize the use of operators from their “verbal markers,” such as are listed also in the POCS-6²⁵. Such a computerized linguistic measure would have significant advantages over the POCS-6 in terms of cost-effectiveness to measure pre/post change after training²⁶. This would help us overcome one of the main methodological limits at present, which is the lack of tools to measure the use of the operators that are not anchored to specific vignettes.

²⁵ This is another difference between human therapists and AI. While the information “fed” to the machine is typically verbal, therapists acquire from the clinical material also non-verbal information (e.g., the sense impressions stimulated merely by being in the “presence” of a patient). Yet, at the same time, the operators can ultimately *only* be assessed from language, for they are, essentially, “linguistic matrices” (cf. Chapter 4).

²⁶ In the development of this tool, a fundamental problem to be solved would be that while conceptual operators can be “counted,” reflective operations cannot, for they are not discrete mental acts chained with others. This is also why we opted not to collect frequencies in Chapter 1.

Another main limitation of the thesis, as pointed out, is the focus on the CR of therapists, to the exclusion of the part of transformation done by patients. As Saller (2017) notes, in "today's psychoanalytic thinking, we are aware that it is primarily the patient who has to understand ... the activity of interpretative (abductive) thinking has moved its emphasis from the analyst to the patient" (p. 199). An avenue for future research, then, is the exploration of how reflective agents *jointly* develop meaning or "sense," as Salvatore (2015) calls it. Similarly, Bion (1965) proposed "to study alternately the transformations of the patient and the transformations of the analyst with a view to formulating" a new, expanded theory of transformations (p. 42), and believed that the subject of CR "cannot be pursued further without considering the relationship between" the two (p. 141). The most suited methodology to study this process of joint reflection would be probably a "micro-analysis" of therapy sessions (De Jong et al., 2013). As we have illustrated in Chapter 5, however, such micro-analysis does not need to be framed within a constructivist lens, but can be grounded on frameworks that are more consistent with the epistemology of psychoanalysis.

As far as patients are concerned, the operators model could also be used to analyze the ways in which they submit the clinical material for analysis. Here too, not so much the *content* of their verbalizations would matter (for, as noted, no model of CR could ever cover such multiplicity), but rather certain formal aspects related to this content. One obvious aspect is the quantity of clinical material (how much information the patient brings). But another, more qualitative aspect is the degree of prior "transformation" that the patient has done of their own experience, and which may translate into the relative opacity of the clinical material. Asking how insightful is the patient is the same as asking how obscure is O to themselves, and therefore *how opaque is O's reflection in the clinical material*. If the "purpose" of a therapist is to know what the patient "is talking about and to meditate upon it," then it does make a difference whether they are "stating" their "experience inadequately" or not (Bion, 1965, p. 123).

For instance, a patient may speak a lot but bring information that remains at a concrete and literal level, showing no inclination for the use of the Symbolic operator. In this sense, our model could also be used as a frame for the classification of what Bion (1962) calls "disorders of thought" (p. 62). Besides concretistic or operator thinking (as the "reverse" of symbolic thinking), one could consider also omniscient thinking, which Bion (1962) referred to by the name of "minus K," and which can be seen as the inverse of the Skeptical operator. These "reversed operators" may be called, more precisely, "decay factors," for they are tendencies of everyday thinking that run counter the effort of psychoanalytic thinking. Decay factors apply also to therapist, who may have a tendency to take things at face value (decay factor of the Investigative operator), think in one-sided terms (decay factor of the Dialectical operator), or pin the blame on others (decay factor of the Emancipatory operator)²⁷. This language may be useful in the context of supervision, which focuses on the therapist's decay factors, just as personal therapy focuses on the patient's. Decay factors are not cognitive "errors" (Ramzy, 1974, p. 548), but tendencies to be constantly reverted to be able to learn from experience.

Consistently with the envisaged move from therapist to patients, the AI model mentioned above could be trained to measure not only CR skills, but also their inverse (decay factors) to monitor progress in patient reflective functioning. Computerized linguistic models are already being used, for instance, to assess changes in "symbolic processing" in patients (Negri et al., 2024), or to discriminate between classes of patients on the basis of other verbal markers (Negri, 2019). Similarly, Bion (1965) alluded to the possibility of classifying "clinical entities" (p. 6) by analyzing the patient's "types of communication" (p. 23) and tried, for instance, to distinguish between neuroses and psychoses "on the basis of the theory of transformations" (p. 15).

²⁷ A big "part is played in analysis by the need to blame other people ... maturation involves *being* responsible" (Bion, 1965, p. 155).

Another limitation of the thesis is that it focused on the CR of therapists, without considering the impact of the operators on *clinical outcome and process*. This is a limitation because the accretion of (self-)knowledge is not an end in itself in analytic therapy, but is subordinated to the “development of the personality” (Bion, 1965, p. 169). Ultimately, the aim of the analytic “cure” (p. 149) is not a transformation in K (understanding), but in O (being); not a transformation of the clinical material, but of *oneself*. If both transformations in K and transformations in O have to do with “growth” (p. 156), the former are related to “growth in ‘knowing about’” O (p. 163), while the latter “are related to growth in becoming” (p. 156). And for Bion, it is the latter that count. For in psychoanalysis, “there is more at stake than an exhortation to “know thyself”” (p. 148). The whole “point at issue is how to pass” *from K to O*: “Is it possible through psycho-analytic interpretation to effect a transition from knowing the phenomena of the real self [O] to being the real self?” (p. 148). Although some believe that psychoanalysis “can only increase knowledge,” for Bion it “must do more” than that (p. 148). The “interpretation should be such that the transition from *knowing about* reality to *becoming real* is furthered” (p. 153, emphasis in original). A change of focus from the epistemological (K) to the ontological (O) is also characteristic of contemporary analytic therapy (Aibel, 2022).

In this regard, it is evident that *not all interpretations* are adequate to “effect the transition” from K to O (p. 153). And this is also why in contemporary psychoanalysis a growing emphasis is laid on non-interpretative interventions, or on more experiential ways of furthering O (Fink, 2010). But the fact that not all interpretations effect a transition from K to O can also be interpreted in the sense that a transformation in K is a *necessary but insufficient condition* for a transformation in O. The former kind of transformation is indeed “*conducive*” (p. 156, emphasis in original) to the latter; yet, other conditions must be in place. Besides the ones that we have identified in Chapter 5, another condition that Bion identifies, and which raises again the question of

truth, is the good or correct *mating* of form and content. The “transition [from K to O] depends on matching the analysand’s statement” with a certain “interpretation” (p. 153). Future research might focus, then, on this important theoretical question of the relation between K and O. This is the same question that was left pending by Freud (1914): *Besides interpreting the clinical material over time (and under the other boundary conditions), what else is needed to finally achieve “working through”?* Bion grapples with the same question: “We need to know what kind of transformation ... is required to effect the transition ... $K \rightarrow O$ ” (1965, p. 156).

But this question could also be explored in an empirical way. The operator model, in fact, allows K to be operationalized to an unprecedented level of detail. Consequently, it allows to study with precision the effects that different dimensions of change in K (*operators*) have on O (*clinical process or outcome*). The relation between the two could be explored naturalistically, through a micro-analysis of the analytic process; or it could be explored experimentally, by manipulating K through *training*. We have already suggested in Chapter 2 that one the main avenues for future research is the realization of a new RCT with practicing therapists as participants, exploring the impact that an operators training delivered through spaced education (and focusing on the reflective as well as the conceptual operators) has on clinical process and outcome. It is in the context of this RCT that the AI model mentioned above could play an important role in facilitating the coding of transcripts, and perhaps in the training itself. This RCT would also allow us to “come full circle” from research to practice and test the clinical utility of our model as judged by practicing therapists.

Finally, another avenue for future research concerns the question of rational “monism” vs “pluralism” as it applies to CR. Rational monism refers to the degree to which different reflective agents, presented with the same clinical material, *converge* in their clinical conclusions (in terms of case conceptualization or planification of treatment strategies); rational pluralism refers to the degree to which they *diverge*.

This is another important theoretical question that our model allows to re-appraise in a new way. In particular, we have assumed in this thesis that something like a “logic of the case” exists, as an anchoring point towards which the CR of competent analytic therapists gravitate. But this is an assumption that could be put to the test experimentally. Competent analytic therapists from different schools of thought could be presented with the same standardized stimulus (e.g., a clinical vignette or video of a first session) and asked to mobilize their CR. The operators model could then be used to “map” the different inferential pathways that they take, and the degrees of convergence or divergence. Is it really the case, as a supervisor in our sample suggested, that many (if not all) roads lead to “Rome” (the logic of the case)? Or is it rather the case that theory supersedes reality, so that when the theories are different so is “the meaning conveyed,” even if “the material transformed” is “the same” (Bion, 1965, p. 5-6)?

5. Implications for the broader field

In the individual chapters, we have already outlined the main implications that our results have for analytic therapy. In the discussion, we have also discussed at length the clinical applications of our model (e.g., meditative review). Now, we would like to consider the implications that our research has for the broader field of *psychotherapy research*²⁸.

An important trend in contemporary psychotherapy research is the growing emphasis on therapist *responsiveness* (Wu & Levitt, 2020). Responsiveness is defined as the influence of “emerging context” on the therapist behaviour (Kramer & Stiles, 2015). More specifically, this entails the therapist’s ability to deal with “potentially disruptive clinical ‘if’ situations” that they “encounter and to which they ‘then’ need to be responsive” (Constantino et al., 2020, p. 405).

²⁸ For reasons of space, on the other hand, we are not outlining here the implications that our work has for other fields – for instance, the implications of our hypotheses in Chapter 4 for the field of historiography.

This definition of responsiveness echoes our operationalization of functions as condition-action (“*whenever-then*”) sequences that are used to respond to emerging configurations in the clinical material (Chapter 1). The emphasis on therapist responsiveness is also consistent with Schön’s critique of technical rationality. As noted, Schön insisted that professional competence does not consist in the top-down application of standardized knowledge (of theories or techniques), but in the mobilization of certain *skills* which are flexibly adapted to each case. Similarly, contemporary research is moving away from the idea that therapeutic effectiveness depends on “strict adherence” to standardized treatment packages (Constantino et al., 2020, p. 405). Greater emphasis is being laid on what *therapist skills* are needed to personalize the treatment, adapt it in case of negative responses, and work with complex presentations.

In this context, a strategy that is being envisaged for the training of future therapists is to identify sets of *core skills* that underpin responsiveness and incorporate them into specific training modules. Anderson and colleagues (2020), for instance, have identified a particular set of a-theoretical relational skills called “interpersonal facilitative skills” (IFS). The IFS, which include skills such as “verbal fluency,” “emotional expression,” or “warmth,” are believed to explain part of the differences observed between therapists in terms of their therapeutic effectiveness. Trainings modules are now being developed which specifically focus on IFS. Their effectiveness is being experimentally tested (Perlman et al., 2023), and the impact of IFS on clinical outcome is also being explored (Anderson et al., 2016). The same approach could be applied to CR skills. There is reason to believe that conceptual and reflective skills are also relevant to therapist responsiveness (Critchfield & Knox, 2010). Yet, the problem is that there is a dearth of empirically-grounded models of CR skills in this literature. Very few models have been developed that operationalize CR skills in sufficient detail, and those that are commonly taught, such as the 5 Ps model, have serious limitations, as we noted in Chapter 2.

The operators model could play a role at this juncture. On the one hand, in fact, our CR model is specific to a treatment modality (analytic therapy). And, as we argued in Chapter 1, this specificity was needed on accounts of the fact that CR skills, more than relational skills such as IFS, are dependent on the epistemological framework of the therapists (Roussos et al., 2007; Schacht and Black, 1985). However, what we have developed is also a general method of *operationalizing* CR skills. There is nothing in our notions of “function” or “operator” that is specifically psychoanalytic. Insofar as the key constructs in our model are purely descriptive, they are not associated not only to any analytic school of thought, but also to any treatment modality. It follows that researchers and therapists from other treatment modalities could develop their own “operators models,” by studying the CR skills mobilized by competent therapists, applying the same method we have described for spelling functions and classifying them around core ideas (Chapter 1).

As repeatedly noted, some of the CR skills in our model are not specifically analytic. Thus, strong overlaps can be expected between the “operators models” of different treatment modalities. The use of metaphor, for instance, is “ubiquitous” in psychotherapy (McMullen & Tay, 2023, p. 255). But especially if the natural forms hypothesis from Chapter 4 is correct, many more operators may be expected to be shared, especially across *insight-oriented therapies*, which ultimately consist in “a meaning making endeavor” (Dalal, 2023, p. 492). In this regard, another implication of our model is its potential use as a language to facilitate the communication in multi-theoretical teams. In my anecdotal experience of inter-vision sessions with person-centered and analytic therapists, for instance, I was able to observe that person-centered therapists rely comparatively more on the Mimetic operator, while analytic therapists rely comparatively more on the Investigative operator. The “pragmatic tension” between these two operators (one inviting to approximate the patient’s lived experience, and the other to avoid taking it at “face value”) could explain some of the epistemological differences between these two modalities, for example.

More generally, the intellectual enterprise that we have undertaken in the development of our model may be of inspiration to all therapists who are working within a non-positivistic epistemological paradigm. In this regard, as Schön (1983) notes, technical rationality has accustomed us to a dilemma of “rigor or relevance” (p. 42). While many analytic or humanistic therapists, for instance, consider their knowledge to be relevant to everyday clinical practice, some of them renounce to the possibility of describing it with the same rigor that seems possible within a positivistic paradigm. Some of them even appear to think of rigor and relevance as mutually exclusive – hence the appeal of a “mystique of professional practice,” which is the solution of declaring the relevant knowledge impossible to be rigorously described. What we hope to have demonstrated in this thesis, instead, is that this dilemma is, in fact, a false one. One can, within the confines of a non-positivistic paradigm, achieve a certain rigor despite the complexity of the practice that is described.

In this sense, analytic therapy is only as “exemplar” of a treatment modality which, as Ginzburg (1980), Schön (1983), and Forrester (1996) have argued, is to be collocated within a non-positivistic paradigm. Psychoanalysis has an “exemplary” interest for the field of epistemology at large *because of its troubled relation with positivistic standards:*

Psychoanalysis should be a legitimate object for history and philosophy of science – because of the seeming triviality of its objects, because of the fact that it arouses strong emotional responses in scholars and because of the fact that its repeated claims to be recognized as truly scientific have been largely contested (Mayer, 2017, p. 152, emphasis in original).

And yet, as “antipodean” as psychoanalysis may appear from technical rationality, we have seen how the influence of the latter is never too far. What we have called the theory model (Chapter 3) is merely a version of technical rationality. Schön (1987) also notes that psychoanalysis is “an exceptionally interesting profession” (p. 219) to study the nature of professional knowledge precisely because it contains in itself a re-edition of the epistemological

"controversy between those who would frame psychoanalysis in objectivist terms, with its own form of technical rationality, and those who take an explicitly constructionist view of it" (p. 220). In this thesis, we have proposed an epistemological position that is based on a rejection of both of these poles (objectivism and constructivism) (Chapter 5). And in this sense, what this thesis can contribute to the broader field of psychotherapy research, besides a specific model of CR or a method for operationalizing CR skills, is a general reflection on the epistemological foundations of CR in psychotherapy. The analysis that we have carried out in Chapter 3, for instance, is relevant to any treatment modality in which "theory" is taught as part of training, as is the case for most. Our distinction between fluid and crystallized is also not specifically psychoanalytic, but serves to conceptualize a tension that is characteristic to clinical knowledge as such. Transmitting a view of the CR process that is consistent with the actual nature of practice is especially important for the purpose of *teaching future therapists*. When trainers are teaching public theories, for instance, are they also implicitly transmitting technical rationality (i.e., the view that theories are the professional knowledge to be deductively "applied")?

In Bion, for instance, one still finds an unresolved mix of technical rationality and reflection-in-action, of which he does not seem to be aware. On the one hand, in fact, Bion sometimes writes about therapists applying certain "theories" to effect transformations of the clinical material (1965, p. 5), as if what mattered the most is "the armoury" of crystallized knowledge on which the therapist "relies" (p. 11). Occasionally, he also seems to confuse the purpose of CR for explanation, as when he writes that a patient was "having an experience which I would explain by that particular theory" (p. 21). Using geometry as a model for CR, Bion also uses expressions such as drawing "*deductions* from the material" (p. 18, emphasis added) or even "axiomatic deductive representations" (p. 122). He seems to think of the solution to clinical problems as consisting in a "calculus of decision" (Schön, 1983, p. 47), in a manner reminiscent of the Leibnizian *calculus*. So, in these and other respects, Bion

is still very much under the influence of technical rationality. Yet, at the same time, he also takes certain epistemological positions that clearly go beyond it, as when he writes:

There is no lack of analytic theories [that I might have applied in this case] ... [and] I was able to narrow choice of interpretations to two or three. But even two or three interpretations can be an embarrassment when one only is wanted and that one correct in the context in which it is given. I am therefore ignoring here, and throughout this book, any discussion of psycho-analytic theories. I am however concerned with [the theory of transformations] ... Can this theory be applied to bridge the gap between psycho-analytic preconceptions, and the facts as they emerge in the session? (p. 16).

Here, Bion points to the “arbitrariness” that the theory model implicitly entails, and takes a realistic stance instead, pointing to the role of CR in extracting meaning. In line with our notion of fluid CR, Bion stresses the importance of “preserving an awareness” of one’s “background of theory,” while allowing oneself “to be as open to clinical impressions as possible,” almost striving to reproduce in oneself the “sense of being at a loss” (p. 22). Thus, he is aware of the difference between the therapist’s “theoretical equipment” and the particular “state of mind in which the theories are [or should be] available in the session” (p. 51). Theories “must be present in the analyst’s mind,” but *in a certain way* (p. 51). Bion’s recommendation in this case is also not specific to analytic therapy. It is a general reflection on the role of theory in everyday CR which, as the quote above reveals, serves to *bridge the gap between theory and practice* that is opened by technical rationality. Contributing to filling this gap is perhaps the most important theoretical implication of this thesis.

Our research also has pedagogical implications. In Chapter 2, in particular, we proposed a method for teaching CR skills which has relevance for the contemporary debate in psychotherapy research. Another emerging idea in this field, in fact, is that therapists should develop skills through *deliberate practice* (Mahon, 2023). By this term, it is meant taking time “outside the therapeutic hour” to practice specific

skills in a repeated and purposeful way, “in the same way as a musician” trains their finger independence, coordination, or muscle memory by practicing scales (p. 967). But as we have seen, this is the same metaphor used by Bion in relation to the psychoanalytic game. What we have proposed to students in our RCT is precisely a series of deliberate practice exercises on CR skills. These exercises make use of specific pedagogical principles. One of them is *ludendo docere* (“teaching through fun”). Bion calls it the psychoanalytic game because the dimension of “play” (p. 128) is central to it. Similarly, in our RCT we have used teaching materials that we expected would be particularly acceptable to our target audience, such as movie clips. Another pedagogical principle is the focus on concrete patient material, such as Chris’ training vignettes. If analytic CR is a form of “thinking in cases” (Forrester, 1996), then it should also be “taught in cases.” Hence the use of case-based analogical reasoning (Speicher et al., 2012)²⁹. These principles, again, are not specific in any way to analytic therapy, but can be generalized to other modalities.

Finally, our epistemological analyses have also helped to clarify what is it that is being taught. Under the influence of technical rationality, professional training tends to be depicted as the acquisition of “specialized knowledge” (Schön, 1983, p. 22) that clearly separates the layperson from the professional. Instead, through our reflections on the origins of CR skills (Chapter 4), we have arrived at an alternative hypothesis: namely, that what is being trained can also be seen as certain innate predispositions of the mind. This hypothesis is consistent with what we have observed in Chapter 2. For students already came to the RCT with some “intuitive” faculties at pre-test. Yet, our results suggest that these faculties could be developed further through training.

²⁹ On the one hand, tools like the grid serve “to solve a problem *in the absence of the objects giving rise to the problem*” (Bion, 1965, p. 39, emphasis in original). Yet, on the other, unlike mathematical problems, clinical ones cannot be “solved” in abstract. In fact, this is an “advantage” of the therapist over the mathematician: that their “statements can be related to realizations” (p. 44). CR involves a continuous transformation to and from “general” statements and “specific instance[s]” (p. 42).

6. Conclusions

I would like to conclude with a meta-reflection on the logic of scientific discovery underlying the realization of this very PhD thesis. As a person sets out to write a PhD thesis, they typically feel compelled by certain implicit scientific standards to write it *as if* every detail of it had been planned from the beginning; as if the research process conformed to a rational plan of enviable clarity that follows deductively from the introduction to the conclusions. In reality, however, this plan is often a retrospective superimposition. It is not a true image of the research process as it *actually* unfolded, which is often much “messier.” Many decisions during a PhD are made while “reflecting in action” (dealing with emerging problems, under conditions of uncertainty, time pressure, and so on). Therefore, in a way, researchers cannot be trusted when it comes to describing the logic of their own discovery.

But as we have seen, the same happens with the CR of therapists. Bernardi (2021), for instance, notes that published case studies “tend to be presented deductively. But in practice, clinical inferences advance in an ascending manner, ‘from the bottom up’, moving from concrete clinical experience towards more general statements” (p. 313). Thus, the therapists cannot be trusted either, when it comes to the account of their process of discovery, for this also tends to be tampered with under the watchful eye of “science.” But neither the researcher nor the clinician are to be blamed for this. For as long as the whole culture does not change, faithful accounts of the discovery process will be kept out of scientific discourse. For this deductive (or rather, “deducti-*fied*”) presentation may be what journals require of clinicians to publish their papers. Similarly, funding agencies or doctoral commissions within universities commonly require students to produce and follow research plans in which the tiniest details have been thought through in advance, down to the single month, the single work package, or the single budget residue. “Pre-registration” is another example of this scientific forethoughtfulness which is highly praised today.

In this scientific culture, there are some who indeed *become* able to do research or clinical work in this way. These are the therapists who lay down a rational plan at the start of therapy, and then actually adhere to it; or the researchers who apply well-established theories “top down” to their data. In the latter case, “crystallized scientific reasoning” prevails. But according to our hypothesis about the relation between types of scientific reasoning and the logic of discovery, it is not surprising then that this approach to inquiry so often gives the impression of being incapable of making any genuinely *new* discovery. There are certain scientific papers that leave us with the distinct impression that we are not the more knowledgeable for having read them. But this impression can be pinned to the fact that often the authors simply applied some crystallized knowledge to new data, without calling into question (“fluidifying”) that knowledge. Nothing truly “new” can ever be learnt in this way. As Bion suggests, discovery is only possible if we are willing to spend time *groping in the dark*, which is what those implicit scientific standards imply that proper scientists would not stoop to do.

The realization of this PhD thesis involved indeed long periods of groping in the dark. And what pushed inquiry out of darkness often felt more like a creative impulse than the diligent application of a method. After several consensus meeting that seemed to be leading nowhere, the “operators” were first drawn on a piece of paper, each with its pictorial logo (Chapter 1). The RCT, which was originally supposed to be the centerpiece of the PhD, took a marginal place in the end, and its design was changed last minute after an exchange during a doctoral seminar (Chapter 2). Chapters 3, 4, and 5 were serendipitous responses to questions that arose along the way. These events are the real “logic of a PhD,” as the tortuous process by which meaning was developed, through time (4 years of PhD), opposition (dialogues with my supervisor, supervisory panel, reviewers), passion (for research), reflection, and immersion (training as an analyst while writing a thesis about it). One could say that not only I but all the reflective agents involved in the research process, were the “means” through which this thesis wrote itself.

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Appendix A

Assessment vignettes

Edith

Edith is a 42-years-old white woman. She lives with a male partner and his child from a previous relationship. She is going to be made redundant in a few weeks, for she has spoken out against her boss. He was "bullying" a secretary while everyone else "looked the other way."

The first session starts late because Edith got lost in the building looking for the therapist's office. She had been going up and down the corridors, when the therapist found her. During the session, she explains that even small things like this make her feel "overwhelmed."

After several years of unsuccessful IVF treatments, Edith has fallen pregnant naturally. She is now in her 12th week of pregnancy. However, Edith feels anxious about a possible miscarriage. In fact, she "can't quite believe" that this child "will be born." She had three miscarriages in the past and has nightmares that it might happen again.

When recently she had to go to the hospital for an ultrasound, she was afraid that the doctor would tell her that "there was no heartbeat," just like the last time. By an "awful coincidence," the person who performed the ultrasound was the same one who had given her the bad news years ago. Fortunately, this time the baby was fine. Edith is "not religious," but she believes that her miscarriages are "divine punishment" for an abortion she had when she was 16. Since she found that out she is pregnant, Edith has started to "craving drinking." "It's almost a sabotage of happiness," she says. It's like a "compulsion," doing the things she "shouldn't be doing."

Edith comes to therapy because she wants to stop her "self-destructiveness," but also because she feels "stuck" in her life. She would like to move on and stop ruminating about the past. She keeps thinking about a relationship she had 20 years ago. She has never stopped thinking about this man

and still wonders about the meaning of things he said 10 years ago.

Edith is dissatisfied with the relationship with her partner. He does not provide for the family and Edith has to pay for everything. Edith has booked a holiday with him and his child, but she is not looking forward to it. When Edith met her partner, he was going through a divorce. She felt like she was "inheriting someone else's problems," as her ex-wife was a "fruitcake" but "clever one," who was "always convincing the social workers that she wanted to be a mother this time." They went through "years of court proceedings, custody disputes, psychiatrists" in an "unfolding drama." Edith calls her an "awful woman" and a "bitch." "I have hatred towards a woman I don't even know," she laughs.

On the same day that Edith found out was pregnant, her father died of liver cancer. She realizes that this is an "odd way of thinking," but she doesn't think that it is a "coincidence." Her father was somewhat of a "bully" and a frequent drinker; her mother always complained about him and felt victimized. Growing up, Edith used to stand up for her mother. Since her father's death, her mother keeps bringing up memories about her late husband; but Edith would rather grieve "normally" and forget.

Tara

Tara is a 40-year-old Indian woman. She lives alone with her teenage son, who means the world to her. Tara had a previous psychological therapy 10 years ago, following the suicide of her brother. During this earlier treatment, Tara divorced her husband. She was somewhat better in the period after the divorce, until she got worse again and contacted her GP.

Tara explains that the GP "didn't want to listen" to her, even though he "sort of listened." It took Tara an "awful long time" to convince him that she really needed help. The GP referred her to an online self-help program. But she didn't like it, as she wanted "someone to talk to." As Tara could not afford to pay, she contacted a center offering therapy free of

charge. She approached the center in September, but did not make a first appointment until June.

Tara arrives half an hour late at the first session. She asks the secretary to try to get hold of her therapist by ringing her phone and knocking on her door, but the therapist seems unreachable. When she finally meets her therapist, Tara explains that it has been a "long journey" to get there from her place, taking longer than expected. "It's just one of those things, isn't it?", says Tara. "It just kind of happens that way."

Tara struggles to motivate herself to do anything. Her apartment is a "complete mess." She finds it difficult to get out of the house or to attend social events. There are days when she just stays in bed all day. Sometimes, she is overwhelmed by a feeling of sadness and cries herself to sleep. She has a persistent feeling of not being understood.

Tara's employer has warned her that she cannot take any more days of sick leave. Her boss is also urging her to schedule her medical appointments outside of work hours. But Tara is uncomfortable leaving her son home alone for too long. Tara asked to be able to work from home, but was told that her job did not allow it. "They've removed any kind of flexibility," she says. "It feels like they are deliberately putting pressure on me, knowing that I struggle." Given the pressure at work, Tara has decided to take some unpaid time off to try and "fix" herself.

When Tara was 3 years old, her mother left the household. Tara never knew what happened, since no one in the family ever talked about this event with her. Growing up, Tara felt like the "black sheep" of the family. "Always been made to feel like I sit outside. There's the house, there's the window. I look through the window." Tara was raised by her aunts, with whom she has a troubled relationship.

Tara is angry at her extended family for not supporting her over the years. She says she has given up asking for help, since there is no point. "My family, they know how much I'm struggling. And over all these years, no matter how many times I've asked for help, that help has never been forthcoming". A particular source of stress is the upcoming wedding of her cousin. Tara worries that she will "stand out

like a sore thumb” and that her medication will make her “drenched in sweat.” On the day of the wedding, Tara sits on her own and pretends not to notice the presence of her aunts, until they come to her table and ask how she is.

Appendix B

Psychoanalytic Operators Coding Sheets (POCS-6)

As a coder, you are asked to read the student's Case Conceptualization (CC) and determine to what degree there is evidence of the use of each of the 6 operators of psychoanalytic CC (Dialectical, Symbolic, Formal, Investigative, Genealogical, and Dynamic). To do so, you are asked to use the following scale:

- ☐ Absent
- ☐ Slightly present
- ☐ Moderately present
- ☐ Highly present
- ☐ Exceptionally present

Rate "Absent" if there is evidence of 0 operations carried out using that operator; rate "Slightly present" if there is evidence of 1 operation; rate "Moderately present" if there is evidence of 2 operations; rate "Highly present" if there is evidence of 3 operations; and rate "Exceptionally present" if there is evidence of 4 (or more) operations.

A conceptual "operation" is defined as a mental action that the students carries out on the case material. There are three main types of operations.

- a) *Filtering operations*, i.e., selecting certain elements of the case as important.
- b) *Linking operations*, i.e., connecting together two or more elements of the case material. In the POCS-6, these operations are indicated with an arrow, $A \rightarrow B$, where A and B are the elements of the case material that are being linked together.
- c) *Transforming operations*, i.e., interpreting elements of the case in a new way. In the POCS-6, these operations are indicated with a function, $f(x) = y$, where x is an element of the case material and y is the element that x is being transformed into.

As you are going through a student's CC, consult the coding sheets provided for each operator on the basis of Tara's or Edith's vignette. There are four inferential rules for each operator. Below each inferential rule, a list of conceptual operations is provided. If the student carried out an operation that is on the list, then report in squared brackets the name of the operator and the number of the inferential rule. After the code, add a few words to make it clear what operation you are referring to. E.g., "Tara seems to believe that everyone is against her, such as her GP, employer, and family [Formal, 3.2, *Persecution(GP, employer, family)*]". This will help you to avoid double coding conceptually identical operations.

Bear in mind that the list of operations provided for each function is non-exhaustive. Thus, you might come across a passage where a conceptual operation was carried out that constitutes evidence of the use of an operator, but does not figure in the list. In that case, you can still code the operation. However, please bear in mind that the list of operations serves to limit the coder's subjective interpretation of what constitutes evidence of the use of a particular operator, so be conservative in your postulation of additional operations. To make sure that an operation belongs to an inferential rule, try to spell out the "mental act" that you think was carried out with that operation, using an infinite form and a language as experience-near, clear and descriptive as possible (avoid theory-laden language). Report the number of the inferential rule followed by your interpretation of the student's operation. E.g., "The gratuity of psychotherapy may represent for Tara the gratuity of love [*Symbolic, 2.3, f(gratuity of therapy) = gratuity of love*]".

Nota bene:

- Operations are inferences that move *forward* the understanding of the case material. If the student simply repeats or summarizes the information that is already contained in the vignette, or proposes commonsense inferences and tautologies, do not count these as operations.

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- If a passage is underpinned by several operations, then make sure to count only conceptually distinct operations and separate them with a semicolon within the brackets.
 - For the purposes of this exercise, consider questions as equivalent to affirmations. For instance, if the student asks "Could X be linked to Y?", treat this question as if the student had said, "I hypothesize that X might be linked to X".
 - It may happen that a certain thought process has not been fully spelt out by the student, but you suspect that the student implicitly carried out a certain operation in their mind. However, as a general rule, do not credit a student with an operation unless it can be reasonably assumed that they went through that particular thought process.

For each operator, a series "verbal markers" is given below. Verbal markers are linguistic "cues" that should alert you that it is possible that a certain operator is being used. Please note, however, that the presence of a verbal marker does not necessarily mean that a certain operator was used. For instance, the expression "on the one hand... on the other" is a verbal marker for *Dialectical*. However, this linguistic expression can be used to express thought processes that do not constitute dialectical operations, but are evidence of the use of other operators (for instance, pointing out of inconsistencies through *Investigative*) or no operators at all. Verbal markers include:

1. *Dialectical*: "on the one hand... on the other", "that is true... yet, at the same time", "reversal", "turns/overturns", "flips", "transforms", "ambivalent/ambivalence", "double", "opposition/opposite", "contrast/contradiction", etc.
2. *Symbolic*: "represents/representation", "symbol/symbolizes", "(psychic/physical) reality", "literal", "concrete", "abstract", "metaphorical", "internal", "external", "signifies/signification", etc.

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3. *Formal*: "repeats/repetition", "pattern", "just the same as", "always/never", "just as... so", "while/when", "as soon as", "constantly", "triggering", "common (to)", "coincides (with)", "parallel", "the same as", etc.
 4. *Investigative*: "exaggerated", "extreme", "excessive", "(a)normal", "(un)usual", "(in)habitual", "(a)typical", "strange", "odd", "The patient says that... however", "missing", "absent", "unsaid", "clue", etc.
 5. *Genealogical*: "present", "past", "childhood", "growing up", "trauma", "re-awakened", "re-activated", "re-surface", "resurgence", "beginning", "origin", etc.
 6. *Dynamic*: "emotion", names of emotions (e.g., anger, sadness), names of feelings (e.g., sense of guilt), "affect", "motive", "reason", "interest", "investment", "appetite", "desire", "energy", "for/to" (to express the finality of a behavior).

Edith

Dialectical

1.1 Noting that one thing (A) and its opposite ($\neg A$) are true at the same time³⁰

E.g., On the one hand, she is dissatisfied of the relationship with her partner, but on the other she is about to have a baby with him and plans the holidays together. On the one hand, she really wants to have a baby and become a mother, but on the other she may not want it. On the one hand, she does not back down from challenging things (e.g., defending secretary, child custody), but on the other even little things make her feel "overwhelmed". On the one hand, she would like to stop thinking about the past, but on the other

³⁰ Both poles (A and $\neg A$) have to be relatively well developed. If the implication is not "A and $\neg A$ are true at the same time", but "Edith says A, but there is contrary evidence $\neg A$ ", then consider coding *Investigative* 4.4 instead.

she may take pleasure in dwelling in it. On the one hand, she cannot stand injustice perpetrated onto others (e.g., mother, secretary), but on the other she seems to accept injustice perpetrated on herself (e.g., having to pay everything for partner).

1.2 Attending to the conversion of one thing into its opposite ($A \rightarrow \neg A$)³¹

E.g., Trying several artificial procedures (IVF) → getting pregnant naturally. Doing everything to have a child → starting to drink when she gets pregnant. Losing a life (abortion/death of father) → gaining one life (the child that she is pregnant with)³². Being pregnant when she did not want to be (abortion) → not being able to get pregnant when she wanted to (IVF). The ex of her partner being mother but not wanting to → Edith wanting to be a mother but being unable to. Father's death → Edith's "rebirth"³³. Edith depicting her partner as taking advantage of her → Edith depicting him as a victim (in the relation to his ex). Mother presenting herself as a victim of her husband → mother constantly reminiscing about her husband after his death. Edith looking for someone who is the opposite of her father → Edith finding her partner who seems to resemble him.

1.3 Taking a proposition (A) put forth by the patient and hypothesizing that the opposite ($\neg A$) might be the case³⁴

³¹ Both poles (A and $\neg A$) have to be relatively well developed. If it is a conversion into the opposite that Edith goes through as she is growing up (moving from childhood to adulthood), then consider coding also *Genealogical* 5.2. If a temporal contiguity is spelt out (e.g., "As soon as X happened, A turned into $\neg A$ "), then code also *Formal* 3.1.

³² Consider coding also *Symbolic* 2.3, if the symbolic transformation is sufficiently spelt out.

³³ Code also *Symbolic* 2.3.

³⁴ Code also *Investigative* 4.4 if the truthfulness of something that the patient said is called into question.

E.g., Edith says that she is sick of doing everything for her husband, but the opposite might be true (she enjoys appropriating other people's problems).

1.4 Putting forth two opposite hypotheses³⁵

E.g., Edith may be drinking to "remember" her father – or to forget him. The death of her father could be for Edith a punishment – or a relief.

Symbolic

2.1 Attending to the use of metaphorical expressions³⁶

E.g., "Tyrant"³⁷, "moving on", "stuck", "turning a blind eye to", "inheriting problems".

2.3 Spelling out the meaning of a metaphorical expression³⁸

E.g., $f(\text{tyrant})$ = someone who exercises their authority through sheer force. $f(\text{holidays})$ = a time that is supposed to be pleasurable, joyful, and happy; $f(\text{the past})$ = that which cannot be changed. $f(\text{alcohol/drinking})$ = that which brings death or ruins families; $f(\text{being stuck})$ = being held still by something.

³⁵ For every time that the student considers the "flipside" of an argument, give 1 point to *Dialectical* 1.4.

³⁶ It is insufficient to report the patient's words *en passant*. The student has to imply that the use of this metaphor by the patient is key to understand their case. For any metaphor attended to in this way, give 1 point for *Symbolic* 2.1.

³⁷ If the student notices that the same expression "tyrant" is used by Edith twice in relation to her boss and her father, then code also *Formal* 4.4.

³⁸ For any metaphorical expression whose meaning is spelt out, give 1 point for *Symbolic* 2.2. However, do not code *Symbolic* 2.1 every time you code 2.2. Code *Symbolic* 2.1 only if it is present independently from 2.2. E.g., the student first attends to the use of a metaphorical expression, and then later in their CC spells out its meaning.

$f(\text{being a mother/having a child}) = \text{being someone who is able to give life. } f(\text{divine punishment}) = \text{belief in a higher figure who can punish people by taking their children.}$

2.3 Interpreting something concrete/literal/external (x) as something metaphorical/abstract/internal (y), or vice versa³⁹

E.g., $f(\text{getting lost in the building/having difficulties finding the therapist's office}) = \text{getting lost in life/hesitating to start therapy/having difficulties overcoming her problems}^{40}$. $f(\text{"inheriting someone else's problems"}) = \text{inheriting her parent's problems}^{41}$. $f(\text{father's death/getting pregnant}) = \text{losing one life/gaining one life}^{42}$. $f(\text{baby}) = \text{life that continues and renews itself. } f(\text{desire to have a baby}) = \text{desire of going beyond the past and projecting herself in the future. } f(\text{drinking}) = \text{becoming like her father/being close to father/keeping her father alive}^{43}$. $f(\text{father's death}) = \text{punishment. } f(\text{not believing that the child will be born}) = \text{not believing in happiness. } f(\text{miscarriages/abortion}) = \text{loss of a part of herself. } f(\text{"never ending drama"}) = \text{Edith's life. } f(\text{losing her father}) = \text{losing her role as a defender of victims. } f(\text{"punishment from God"}) = \text{punishment from her father.}$

³⁹ For any conceptually distinct element of the case material that is thus transformed, give 1 point for *Symbolic* 2.3.

⁴⁰ Code also *Investigative* 4.1 for attending to a small and seemingly accidental detail (getting lost in the building).

⁴¹ Code also as *Genealogical* 4.4 for tracing the expression back to Edith's childhood.

⁴² Consider coding also *Dialectical* 1.2, if the opposition is sufficiently spelt out.

⁴³ Consider coding also *Dynamic* 1.3, if there is an implication that this is what drives Edith's desire to drink.

2.4 Coming up with one's own metaphorical expression to describe the patient's experience⁴⁴

Formal

3.1 Attending to temporal contiguities⁴⁵

E.g., Father's death/learning that she is pregnant. Father's death/craving for alcohol. Father's death/episode with her boss at work. Father's death/mother starting to reminisce.

3.2 Extracting a theme⁴⁶

E.g., *Not being able to forget or let go of the past/Living in the past*(miscarriages/abortion, relationship from 10 years ago, wanting to grieve normally, twice the same sonographer). *Sense of justice/Sensitivity to injustice*(defending her mother, defending the, believing in divine punishment). *Regret*(abortion, past relationship). *Motherhood*(her own, that of her partner's ex). *Parenthood/being a parent*(Edith becoming a parent, Edith's parents, her partner's ex). *Death/Life*(previous babies, current baby, father). *Incapacity to enjoy things* (baby, holidays). *Being stuck*(in the corridor looking for the office, in the

⁴⁴ Code only original metaphors (not idiomatic expressions or expressions that are too close to natural language).

⁴⁵ The student has to note a temporal contiguity between seemingly independent elements A and B and infer a link between them. The link can be causal or not.

⁴⁶ Give a point only if the student "opens a parenthesis" (i.e., spells out 2 or more elements that would be evidence of this theme). Give 1 point for each theme that is extracted, but only when the student is making a conceptual distinction between themes, not when they use 2 or more synonymous expressions to describe the same theme (e.g., *Being stuck/Living in the past*). Do not count lists of psychiatric symptoms.

relationship with her partner, in the past). *Negative relationship with male figures*(father, boss, partner).

3.3 Extracting a pattern of behavior⁴⁷

E.g., *Speaking against tyrants*(father, boss) + *Defending victims*(secretary, mother)⁴⁸. *Wanting to do what she (knows she) should not do/Compulsion*(drinking, thinking about past relationship, defending victims). *Appropriating other people's problems*(secretary, mother, fight over child custody). *Coincidences/Superstition*(divine punishment for abortion, twice the same sonographer, father's death on the day when she learns about pregnancy). *Giving herself fully to others/Feeling of duty*(supporting financially her partner, assisting him in child custody, accepting his son as her own, risking her job to defend secretary). *Lacking control over her life*(getting lost in the building, getting pregnant unexpectedly, same sonographer twice, compulsion to drink, cannot stop thinking about her ex).

⁴⁷ Give a point only if the student "opens a parenthesis" (i.e., spells out 2 or more elements that would be evidence of this pattern of behavior). Give 1 point for each patter that is extracted, but only when the student is making a conceptual distinction between patterns, not when they use 2 or more synonymous expressions to describe the same patterns (e.g., *Doing what she shouldn't/Speaking against a tyrant*). Do not count lists of psychiatric symptoms.

⁴⁸ These are 2 separate operations (extracting the pattern of "speaking against tyrants" and extracting the pattern of "defending a victim"), but they can be easily merged into one. If only 1 operation is carried out, then give 1 point. If both operations are carried out, but they are insufficiently developed in themselves, then give only 1 point. Give 2 points only if both operations are sufficiently developed independently from each another. If there is the implication that Edith has learnt to speak against tyrants/defend victims because of her childhood experiences (e.g., through the interiorization of a schema), then code also *Genealogical* 5.1. If the expression "tyrant" is attended to as such, then give a point also for *Symbolic* 2.1. If the student notes that Edith uses the same term "tyrant" to refer both to her boss and her father, then code also *Formal* 3.4.

3.4 Finding parallels or smallest common denominators

E.g., *Drinking*(Edith, her father)⁴⁹; *Complaining about partner*(Edith about her partner, mother about Edith's father)⁵⁰. *Living in the past*(Edith ruminating on past relationship, her mother reminiscing about her late husband)⁵¹. *Use of the term "tyrant"*(father, boss).

Investigative

4.1 From small and seemingly unimportant/accidental detail M, inferring more general phenomenon N⁵²

E.g., M (getting lost in the building) → N (general disorientation in life)⁵³. M (strong words used to describe partner's ex) → N (jealousy for her partner's

⁴⁹ If the link is in the present (or recent past) and it has no claim for causality (e.g., "Edith wants to drink just as her father used to drink before his death"), then code *Formal 3.4*. If the link is the remote past and it has a claim for causality (e.g., "Edith wants to drink because she was exposed to her father's drinking behavior *when she was a child/as she grew up*"), then code *Genealogical 5.1* instead. If the student emphasizes the temporal contiguity (death of father → craving for alcohol), then consider coding also *Formal 3.1*.

⁵⁰ If the link is in the present (or recent past) and it has no claim for causality (e.g., "Edith complains about her partner just as her mother used to complain about her husband before his death"), then code *Formal 3.4*. If the link is the remote past and it has a claim for causality (e.g., "Edith complains about her partner because she was exposed to her mother's complaining behavior *when she was a child/as she grew up*"), then code *Genealogical 5.1* instead.

⁵¹ Code also *Formal 3.2* if the theme of living in the past is first extracted and then linked to her mother's behavior.

⁵² If M is a metaphorical expression used by the patient, consider whether coding *Symbolic 2.2* instead. In *Symbolic 2.2*, the meaning of the expression is simply spelt out; in *Investigative 4.1*, the operation rather is to infer, from the fact that the patient has chosen to use that expression, something about their view of the world or themselves. If the student's operation has been coded as a *Formal 4.4* and *Symbolic 2.1*, then do not code it also as *Investigative*.

⁵³ Consider coding also *Symbolic 2.3*.

ex motherhood)⁵⁴. M (temporal coincidence between father's death and the day when Edith learns she is pregnant) → N (seeing her father's death as a punishment/starting to crave alcohol). M (temporal coincidence between episode at work and father's death) → N (Edith seeing her father in her boss).

4.2 Attending to anything unusual or out of the ordinary by excess⁵⁵

E.g., Effort to become a mother despite all of the difficulties encountered in the process (e.g., number of IVF/miscarriages). Number of coincidences happening around her/superstitious interpretation of events. Animosity against her partner's ex (given that she does not even know her)⁵⁶. Tendency to forget herself in relationships/do everything for others/take on other people's problems/sense of duty. Idealization of past relationship. Ruminating on things said by her ex 10 years ago.

4.3 Attending to anything unusual or out of the ordinary by deficiency⁵⁷

E.g., Noticing that: Edith does not seem very touched/shocked by her father's death; she says nothing of her romantic attachment to her partner (with whom she's about to have a baby). Hypothesizing that: the pregnancy that resulted in the abortion might have

⁵⁴ Consider coding also *Dynamic* 6.1.

⁵⁵ It is insufficient to qualify Edith's cognitions as "irrational", "distorted" or "dysfunctional". The student needs to explain in what sense or way they are excessive or out of touch with reality.

⁵⁶ Consider coding also *Dynamic* 6.4.

⁵⁷ It is insufficient for the student to say "there is no mention of X" or "we don't have any info on X", where X could be any piece of information that is not given in the vignette. Code *Investigative* 4.3 only if there is the implication that X is missing for a specific reason (e.g., that Edith wants to avoid talking about it).

been due to a specific traumatic event (e.g., rape); the relationship from 10 years ago might have ended because of a specific episode (e.g., violence).

4.4 Pointing out inconsistencies or questioning the truthfulness of a patient's statements⁵⁸

E.g., Pointing out that: she says she inherited her partner's problems, but maybe she appropriated them; she says she is not satisfied with her partner, but she stays/plans holidays/has a baby with him; she says she is not religious, but she believes in coincidences; she says she would like to stop thinking about the past, but maybe she takes pleasure in dwelling in it; she says that her father tyrannized her mother (and the boss tyrannized the secretary), but maybe she exaggerated things; she says that the problem with her partner is that he does not provide for her family, but maybe the problem is another one (e.g., that she is not over the relationship with her ex). Hypothesizing that: she started a relationship with her partner *while he was divorcing* not by chance (but to appropriate his problems); she started a relationship with her partner *who had a child* not by chance (but because she wanted to have a child).

Genealogical

⁵⁸ The inferential rule for *Dialectical* 1.1 is "on the one hand, A; on the other hand, $\neg A$ ", where A and non-A are true *at the same time*. The rule for *Investigative* 4.4 is "patient says A, but there is contrary evidence $\neg A$ raising the question of whether A is actually true". With *Investigative* 4.4, one questions the "truth" of A (e.g., by pointing out inconsistencies). However, if, by using *Investigative* 4.4, one arrives at the hypothesis that not only A is false, but that the opposite (of what Edith says) is true, then one can double code *Investigative* 4.4 and *Dialectical* 1.3.

5.1 Hypothesizing a causal link between element of the past P and element of the present Q, such that Q is in continuity with P⁵⁹

E.g., P (abortion/miscarriages) → Q (associating babies with death/sense of guilt/belief that she will not be a good mother/feeling of powerlessness)⁶⁰ P (tyrannical father + mother victim) → Q (tyrannical boss + secretary victim)⁶¹. P (defending her mother) → Q (appropriating people's problems). P (experiencing the vicissitudes of her partner's divorce) → Q (remaining with her partner to avoid going through similar experiences again). P (father drinking) → Q (Edith drinking)⁶². P (mother complaining about husband but staying with him) → Q (Edith complaining about partner but staying with him)⁶³. P (father being tyrannical) → Q

⁵⁹ The student has to clearly identify both P and Q. It is insufficient to say "P still influences Edith to this day/P must have marked Edith", without specifying what aspect of Edith's functioning in the present (Q) is impacted by P. Besides identifying P and Q, the student has to propose some kind of aetiological mechanism that links Q to P. It is insufficient to say "there might be a link between P and Q". Finally, the link has to be diachronic (present-past) as opposed to synchronic (present-present or past-past). If the link is synchronic, then consider coding *Formal* instead. Links through *Formal* are not necessarily causal, while those through *Genealogical* 5.1 and 5.2 are always causal. Give 1 point for each separate hypothesis that is formulated through *Genealogical* 5.1. Code also *Dialectical* 1.4, if the student advances two hypotheses that are conceptually opposite.

⁶⁰ The student has to go beyond what is already contained in the vignette. Bear in mind that Edith already makes some kind of link between P and Q herself.

⁶¹ Same rules as for *Formal* 3.3. If the student merges the two operations, then give only 1 point. Give 2 separate points only if the student sufficiently develops both inferences: P (used to speak against father) → Q (speaks against boss) + P (used to defend mother) → Q (defends secretary).

⁶² Give a point for *Genealogical* 5.2 (instead of *Formal* 3.4) only if there is the implication that Edith craves drinking because she saw her father drinking *as a child/as she grew up* (interiorization of a schema).

⁶³ Give a point for *Genealogical* 5.2 (instead of *Formal* 3.4) only if there is the implication that Edith complains about her partner because she saw

(Edith letting herself being “tyrannized” by her partner).

5.2 Hypothesizing a causal link between element of the past P and element of the present Q, such that Q is in discontinuity with P⁶⁴

E.g., P (father being an alcoholic) → Q (Edith wanting to stop her “self-sabotage”). P (negative example by parents) → Q (Edith wanting to be a good mother).

5.3 Hypothesizing that element of the present P is re-activating/re-awakening element of the past Q

E.g., P (father’s death) → Q (historical feelings of injustice, as evidenced by the episode at work/repressed anger towards father, as expressed through self-destruction). P (same sonographer twice) → Q (painful memories associated with miscarriages). P (dissatisfaction with partner) → Q (memories of relationship with ex).

5.4 Attending to the origin

E.g., Hypothesizing that a single event or experience of the past (e.g., abortion, relationship from 10 years ago) has never been overcome or elaborated, or that all of Edith’s sufferance can be traced back to that⁶⁵. Wondering what the beginning of Edith’s therapy (e.g., her getting lost in the building) says about the likely unfolding of rest of the process. Hypothesizing that, when Edith refers to “inheriting someone else’s

her mother complaining *as a child/as she grew up* (interiorization of a schema).

⁶⁴ See footnote for *Genealogical* 5.1. Code also *Dialectical* 1.2 if the conversion into the opposite (P → Q) is sufficiently developed.

⁶⁵ Qualifying the abortion or the miscarriages as “traumatic” is insufficient. The student has to go spell out how these traumas of the past are re-activated in the present.

problems" in relation to her partner, she is actually talking about having inherited her parents' problems⁶⁶.

Dynamic

6.1 Naming (or re-naming) affective states⁶⁷

E.g., Naming: *Sense of guilt* (in relation to abortion). *Anger* (in relation to father/partner). *Jealousy/Resentment* (e.g., in relation to partner's ex [because she managed to leave partner, or to be a mother]). *Fear* (of becoming a parent or becoming like her father). Re-naming⁶⁸: *Not hate/anger, but jealousy/fascination* (in relation to her partner's ex).

6.2 Attending to the transformation of affective states⁶⁹

E.g., Hypothesizing that Edith's anger towards her partner's ex is a re-transfer of the anger that she has towards her partner (e.g., for not providing for the family); that her anger towards her partner (or boss) is a re-transfer of the anger that she has towards her father.

⁶⁶ Code also *Symbolic* 2.3.

⁶⁷ Do not count "(low) self-esteem", or general feelings such as being "overwhelmed" or "stuck". Do not count hate in relation to her partner's ex or anxiety in relation to pregnancy, because they are both in the vignette. If the affective state (e.g., fear, jealousy) is hypothesized to be a driving factor underlying a behavior, do not code 6.1 but 6.3. Code both 6.1 and 6.3 only if the student names the affective state and then, later in their CC, posits that the affective state is the motive driving a certain behavior.

⁶⁸ If the student questions the name of an affective state and proposes an alternative one (e.g., "is it really anger, or is it rather sadness?"), then give 1 point to *Dynamic* 6.1 and one to *Investigative* 4.4. However, if the student only questions things (e.g., "is it really anger?"), then do not give a point to *Dynamic* 6.1, but only one to *Investigative* 4.4.

⁶⁹ Code also *Genealogical* if the criteria for 5.1 or 5.2 are met.

6.3 Positing that behavior B is driven by underlying affective state D⁷⁰

E.g., D (desire to be “close” to father⁷¹/desire to forget (the past or her father)/desire to kill the baby/desire to protect herself from the anxiety associated with the idea of losing the baby/desire to punish herself/desire to acquire some control over something that feels out of control/belief that she does not deserve to be happy/fear of becoming a mother/fear that the baby will not grow in a good environment because of the problems with her partner/fear of reproducing the schemas of her family of origin)⁷² → B (drinking). D (desire to protect herself from distressing thoughts/not wanting the child to be born) → B (not believing that baby will be born). D (attempt to protect herself by externalizing causality and thus making a negative outcome of the pregnancy easier to accept/attempt to elaborate abortion and miscarriages/attempt to protect herself from the idea that things lie outside of her control) → B (believing in divine punishment). D (desire to punish herself/sense of guilt for abortion) → B (having miscarriages/sabotaging her pregnancy by drinking). D (desire to punish herself/desire to forget

⁷⁰ B has to be a behavior. Only secondly, it can be an emotional reaction (e.g. an anxious response to an event). Only in rare cases, it can be a cognition (e.g., a belief). D, on the other hand, has to be an emotion (e.g., fear, anger). Only secondly, it can be a feeling (e.g., sense of guilt). Only in rare cases, it can be a belief (e.g., that she does not deserve to be happy). However, in all cases, the patient has to be unaware of D (i.e., D has to be unconscious). When the student carries out an operation through *Dynamic* 6.3, consider whether they deserve a second point for *Investigative* 4.4. Give this second point only when there is the implication that the truth about the real motive behind the patient’s behavior was hidden (e.g., Edith says that she intervened to defend the secretary because she could not tolerate the injustice; but maybe she did so to self-sabotage).

⁷¹ Consider coding also *Symbolic* 2.3.

⁷² Give more than 1 point only if the student puts forth two or more conceptually distinct motives for drinking.

father) → B (speaking against boss/getting fired [so that she does not have to see her boss anymore, who reminds her of father]). D (fear of starting therapy) → B (getting lost in the building). D (desire to gain control over the past) → B (ruminating on the past). D (fear of being or becoming like her partner's ex) → B (staying with partner). D (jealousy) → B (getting angry when talking about her partner's ex).

6.4 Attending to where the patient's investment/interest lies

E.g., Noticing Edith's determination to get pregnant⁷³; investment in the past⁷⁴; desire to get better and overcome her problems (e.g., by starting therapy, wanting to turn the page and to grieve normally); animosity towards her partner's ex⁷⁵; dedication in helping others (e.g., episode with secretary, fight for child custody, paying everything for her partner)⁷⁶.

Tara

Dialectical

1.1 Noting that one thing (A) and its opposite ($\neg A$) are true at the same time⁷⁷

⁷³ If the student notes Edith's ambivalence towards getting pregnant through *Dialectical* 1.1, but they sufficiently develop the first pole (A) about her motivation to get pregnant, then double code *Dialectical* 1.1 and *Dynamic* 6.4.

⁷⁴ It is not sufficient to note that Edith ruminates on the past (because it is said in the vignette). The student has to imply that her main interest seems to lie in the past.

⁷⁵ It is not sufficient to note that she is angry towards her partner's ex (because it is said in the vignette).

⁷⁶ Only give 1 point, even if the student notices both the episode with the secretary and the one regarding child custody.

⁷⁷ Both poles (A and $\neg A$) have to be relatively well developed. If the implication is not "A and $\neg A$ are true at the same time", but "Tara says A,

E.g., On the one hand, Tara seeks help/therapy, but on the other, she resists it (e.g., waits months before taking the appointment, shows up late)⁷⁸. On the one hand, the GP “did not want to listen”, but on the other he “did listen somehow”. On the one hand, Tara would like her family to help/check on her, but on the other she does not (e.g., sits on her own, stops asking for help). On the one hand, Tara wants someone to talk to and feels a need for connection, but on the other she isolates herself from the world (e.g., does not attend social meetings)⁷⁹.

1.2 Attending to the conversion of one thing into its opposite ($A \rightarrow \neg A$)⁸⁰

E.g., Being abandoned by her father → Struggling to leave her son alone at home. Not having had a family → Investing everything in her son. Having been ignored by her family growing up → being the one who ignores them now. Sitting her own in order to go unnoticed →

but there is contrary evidence $\neg A$ ”, then consider coding *Investigative* 4.4 instead.

⁷⁸ Give 1 point for *Dialectical* 1.1, only if the desire to get better is clearly opposed to the resistance to therapy (ambivalence). Do not give a point if the desire to get better is simply opposed to Tara’s general lack of motivation. Give 1 point for *Symbolic* 1.2 only if the delay is interpreted (e.g., as indicating resistance). Give 1 point for *Formal* 3.2 only if the student noticed both the 10-month gap and the delay on the first appointment, and implies that both are instances of the same psychological phenomenon (e.g., resistance to seek help). Give 1 point for *Investigative* (either 4.1 or 4.3, but not both), if either the delay or the gap are attended to.

⁷⁹ If the student notices Tara’s ambivalence towards her family, give 1 point. If the student notices also her ambivalence towards therapy, give 2 points. However, if they conflate the two in a generic ambivalence towards receiving help, then give only 1 point.

⁸⁰ Both poles (A and $\neg A$) have to be relatively well developed. If it is a conversion into the opposite that Tara goes through as she grows up (moving from childhood to adulthood), then consider coding also *Genealogical* 5.1 or 5.2. If a temporal contiguity is spelt out (e.g., “As soon as X happened, A turned into its $\neg A$ ”), then code also *Formal* 3.1.

ending up becoming even more visible ("standing out as a sore thumb"). Lack of communication in her family growing up → Wanting someone to talk to.

1.3 Taking a proposition (A) put forth by the patient and hypothesizing that the opposite ($\neg A$) might be the case⁸¹

E.g., Tara accuses her employer of lacking flexibility, but maybe it is she who lacks flexibility regarding work conditions. Tara says that her family never helps/has never helped her, but maybe it is she who isolates herself making it impossible to be helped.

1.4 Putting forth two opposite hypotheses⁸²

E.g., Tara might be afraid of leaving her son at home because she is afraid of abandoning him – or she might be afraid that *he* will abandon her (e.g., running away, killing himself).

Symbolic

2.1 Attending to the use of metaphorical expressions⁸³

E.g., "Long journey", "fix herself", "black sheep", "stand out like a sore thumb", "standing outside the house looking inside through the window".

2.2 Spelling out the meaning of a metaphorical expression⁸⁴

⁸¹ Code also *Investigative* 4.4 if the truthfulness of something that the patient said is called into question.

⁸² For every time that they consider the "flipside" of an argument, give 1 point to *Dialectical* 1.4.

⁸³ It is insufficient to report the patient's words *en passant*. The student has to imply that the use of this metaphor by the patient is key to understand their case. For any metaphor attended to in this way, give 1 point for *Symbolic* 2.1.

⁸⁴ For any metaphorical expression whose meaning is spelt out, give 1 point for *Symbolic* 2.2. However, do not code *Symbolic* 2.1 every time

E.g., *f*(black sheep) = animal that is not part of any group/rejected from the herd. *f*(fix herself) = being like a machine/being broken. *f*(looking through the window) = being outside in the cold; *f*(everything for me) = it means that, without her son, she is nothing.

2.3 Interpreting something concrete, literal, or external as something metaphorical, abstract, or internal (or vice versa)⁸⁵

E.g., *f*(long journey to the center) = long journey to seek help (e.g., 10-month gap). *f*(10-month gap/delay on first session) = resistance to receive help⁸⁶. *f*(sitting outside of the family's house) = sitting outside of the therapist's office and wanting to get in. *f*(brother's suicide) = abandonment⁸⁷. *f*(divorce from husband) = abandonment⁸⁸. *f*(leaving her son at home alone) = abandonment. *f*(therapist is unreachable on the phone) = therapist is unreachable as a person (i.e., distant). *f*(taking unpaid leave) = punishing herself. *f*(demanding for flexibility at work) = demanding for

you code 2.2. Code *Symbolic* 2.1 only if it is present independently from 2.2. E.g., the student first attends to the use of a metaphorical expression, and then later in their CC spells out its meaning.

⁸⁵ For any conceptually distinct element of the case material that is thus transformed, give 1 point for *Symbolic* 2.3.

⁸⁶ Code only if there is an implication that Tara is late because of an unconscious resistance, and not because of the lack of motivation associated to her depression.

⁸⁷ Do not code automatically *Symbolic* 2.3 every time that you code *Dialectical* 1.2 (Abandonments by mother/brother → Incapacity to let her son alone at home). To code *Symbolic* 2.3, the student has to spell out that leaving the son alone at home would constitute for Tara a form of abandonment.

⁸⁸ If the student lists her mother's departure, her brother's suicide, and the divorce from her husband, and qualifies all of them as "abandonments", then code *Formal* 3.2, *Abandonment*(mother, brother, husband). But do not give an additional point for *Symbolic* 2.3, unless the student spells out the metaphorical meaning these events had for Tara.

understanding. f (apartment being a mess) = her life/inner world being a mess. f (health issues) = requests for love. f (not being supported by her aunts) = being abandoned by her aunts.

2.4 Coming up with one's own metaphorical expression to describe the patient's experience⁸⁹

Formal

3.1 Attending to temporal contiguities⁹⁰

E.g., Start of therapy/divorce. Brother's suicide/divorce. Recent stressful events (e.g., difficulties work, episode with GP, upcoming wedding)/symptoms.

3.2 Extracting a theme⁹¹

E.g., *Abandonment/Loss/Separation*(brother's suicide, mother leaving the house, divorce from husband, lack of support from aunts, being uncomfortable leaving her son alone)⁹². *Not listening*(GP "wouldn't listen", family). *Not talking*("someone to talk to", nobody in the family told her why her mother left). *Not understanding*(Tara

⁸⁹ Code only original metaphors (not idiomatic expressions or expressions that are too close to natural language).

⁹⁰ The student has to note a temporal contiguity between seemingly independent elements A and B and infer a link between them. The link can be causal or not.

⁹¹ Give a point only if the student "opens a parenthesis" (i.e., spells out 2 or more elements that would be evidence of this theme). Note that "feeling excluded" is not a theme, because it applies only to Tara's relation to her family, and not, say, also to her GP or employer. Give 1 point for each theme that is extracted, but only when the student is making a conceptual distinction between themes, not when they use 2 or more synonymous expressions to describe the same theme (e.g., *Not listening/Not talking*). Do not count lists of psychiatric symptoms.

⁹² Do not give a point if student simply says "Tara lost many people in her life/had many traumatic losses".

not feeling understood, Tara not understanding the reason why her mother left). *Unavailability*(GP, therapist). *Loneliness*(growing up without a mother/brother, being single, wanting someone to talk to, being uncomfortable leaving son alone at home, sitting alone at the wedding). *Inflexibility*(GP, employer). *Knowing that she is unwell but refusing to help her anyway/Persecution*(GP, employer, family). *Difficulties in receiving help*(GP, employer, therapist, family). *Long time*("enormous time", "long journey"). *Being outside/Standing out*(Tara being outside of the family's house looking inside, Tara's mother leaving the house, Tara's being outside the therapist's office).

3.3 Extracting a pattern of behavior⁹³

E.g., *Requesting flexibility*(wanting to work from home/taking sick leave/fixing medical appointments during work hours). *Help-seeking*(family, GP, employer, therapist). *Hesitating to seek help*(10-month gap, delay at first appointment). *Making herself wanted*(waiting before taking the appointment, being late, pretending she has not seen the aunts at the wedding). *Wallowing in sorrow*(not asking for help to her family, staying in bed, not seeking therapy promptly). *Being on her own/Standing outside*(of her therapist office, of her family's house, at the wedding). *Isolating herself/Taking distance*(not asking for help to her family, sitting on her own at the wedding, wanting to work from home, taking unpaid leave, divorcing husband). *Externalizing fault*(employer, family, "long

⁹³ Give a point only if the student "opens a parenthesis" (i.e., spells out 2 or more elements that would be evidence of this pattern of behavior). Give 1 point for each pattern that is extracted, but only when the student is making a conceptual distinction between patterns, not when they use 2 or more synonymous expressions to describe the same pattern (e.g., *Standing outside/Isolating herself*). Do not count lists of psychiatric symptoms (e.g., lack of motivation) or their consequences (e.g., not leaving her bed, not wanting to attend social events).

journey"). *Resignation to the possibility of being helped*(employer, therapist, family).

3.4 Finding parallels or smallest common denominators

E.g., Between two or more metaphorical expressions: *Exclusion*("stand out like a sore thumb", "black sheep")⁹⁴.

Investigative

4.1 From small and seemingly unimportant/accidental detail M, inferring more general phenomenon N⁹⁵

E.g., M (Tara's delay) → N (e.g., resistance to start therapy)⁹⁶. M ("These things happen, don't they?") → N (e.g., fatalistic view). M (fix herself) → view of herself as machine/self-objectification. *f*(standing out like a sore thumb) = focus on what others think of her. *f*(looking through the window) = passive view. *f*(black sheep) = negative view of herself.

4.2 Attending to anything unusual or out of the ordinary by excess⁹⁷

⁹⁴ Code also *Symbolic*, 2.1, giving 1 point for each metaphorical expression whose meaning is thus attended to.

⁹⁵ If M is a metaphorical expression used by the patient, consider whether coding *Symbolic* 2.2 instead. In *Symbolic* 2.2, the meaning of the expression is simply spelt out; in *Investigative* 4.1, the operation rather is to infer, from the fact that the patient has chosen to use that expression, something about their view of the world or themselves.

If the student's operation has been coded as a *Formal* 4.4 and *Symbolic* 2.1, then do not code it also as *Investigative*.

⁹⁶ Whether the student notices the delay (4.1) or the gap (4.3), give 1 point to *Investigative*. Do not give 2 points if the student notices both.

⁹⁷ It is insufficient to qualify Tara's cognitions as "irrational", "distorted" or "dysfunctional". The student needs to explain in what sense they are excessive or out of touch with reality.

E.g., Over-protective attitude towards her son (e.g., considering that he is a teenager, or that she would be missing from house only a few hours, or that this situation is causing Tara problems at work). Persecutory/paranoid description of other people's unsupportiveness (e.g., idea that her employer would *purposefully* put pressure on her). Number of requests she makes at work (e.g., sick leave, homeworking, appointments during working hours).

4.3 Attending to anything unusual or out of the ordinary by deficiency⁹⁸

E.g., Unexplained 10-months gap between contacting the center and first appointment⁹⁹. Minimization/lack of apologies when she is late to her first appointment. No mention of her father. Lack of explanation for the medication that she says she is taking. Hypothesizing a specific reason for her mother's departure/her brother's suicide/her divorce from husband.

4.4 Pointing out inconsistencies or questioning the truthfulness of a patient's statements¹⁰⁰

⁹⁸ It is insufficient for the student to say "there is no mention of X" or "we don't have any info on X", where X could be any piece of information that is not given in the vignette. Code *Investigative* 4.3 only if there is the implication that X is missing for a specific reason (e.g., that Tara wants to avoid talking about it).

⁹⁹ Whether the student notices the delay (4.1) or the gap (4.3), give 1 point to *Investigative*. Do not give 2 points if the student notices both.

¹⁰⁰ The inferential rule for *Dialectical* 1.1 is "on the one hand, A; on the other hand, $\neg A$ ", where A and non-A are true *at the same time*. The rule for *Investigative* 4.4 is "patient says A, but there is contrary evidence $\neg A$ raising the question of whether A is actually true". With *Investigative* 4.4, one questions the "truth" of A (e.g., by pointing out inconsistencies). However, if, by using *Investigative* 4.4, one arrives at the hypothesis that not only A is false, but that the opposite (of what Edith says) is true, then one can double code *Investigative* 4.4 and *Dialectical* 1.3.

E.g., Pointing out that: she says that her family is (or has been) unsupportive, but maybe she is playing the part of the excluded/misunderstood one (e.g., as evidenced by the fact that she pretends not having seen the aunts at the wedding, but the aunts check on her); she says that the employer is inflexible, but maybe it is she who is putting a lot of conditions; she says that she cannot afford therapy, but then takes unpaid leave; she says that it took an unexpected long time to find the center, but maybe she was hesitating to come to therapy; she says she has to miss work days for medical reasons, but maybe there is another reason; she says she does not want to fix appointments outside of working hours because she is uncomfortable leaving her son alone at home, but maybe there is another reason; she says that it is the medication that makes her sweat, but maybe it is her anxiety; she says that the therapist is unreachable, but it is she who was late at the appointment; she says that she does not want to do online therapy, but then she isolates herself and asks to work from home.

Genealogical

5.1 Hypothesizing a causal link between element of the past P and element of the present Q, such that Q is in continuity with P¹⁰¹

¹⁰¹ The student has to clearly identify both P and Q. It is insufficient to say "P still influences Tara to this day/P must have marked Tara", without specifying what aspect of Edith's functioning in the present (Q) is impacted by P. Besides identifying P and Q, the student has to propose some kind of aetiological mechanism that links Q to P. It is insufficient to say "there might be a link between P and Q". Finally, the link has to be diachronic (present-past) as opposed to synchronic (present-present or past-past). If the link is synchronic, then consider coding *Formal* instead. Links through *Formal* are not necessarily causal, while those through *Genealogical* 5.1 and 5.2 are always causal. Give 1 point for each separate hypothesis that is formulated through *Genealogical* 5.1. Code also *Dialectical* 1.4, if the student advances two hypotheses that are conceptually opposite.

E.g., P (feeling excluded/rejected) → Q (pattern of self-isolation). P (abandonments by mother, brother, family, etc.) → Q (pattern of taking distance from others/view of herself as unworthy of being helped or loved/lack of self-esteem/feeling of exclusion). P (lack of communication in her family) → Q (difficulty in communicating her needs and emotions). P (not feeling understood by aunts) → Q (not feeling understood by GP/employer). P (lack of help from family) → Q (ambivalence regarding asking for help). P (divorce during previous treatment) → Q (separating from someone else during current treatment).

5.2 Hypothesizing a causal link between element of the past P and element of the present Q, such that Q is in discontinuity with P¹⁰²

E.g., P (lack of communication in her family) → Q (need for someone to talk to). P (being ignored by her family) → Q (developing health behaviors as a way to be attended to). P (not having had a family) → Q (investing everything in her son). P (abandonment by mother/brother/family) → Q (difficulty in leaving son alone)¹⁰³. P (being ignored by her aunts) → Q (being the one who ignores her aunts)¹⁰⁴.

¹⁰² See footnote for *Genealogical* 5.1. Code also *Dialectical* 1.2 if the conversion into the opposite (P → Q) is sufficiently spelt out.

¹⁰³ Possible hypotheses: a) because Tara wants to do the opposite of what her mother did, b) because she is afraid that her son will feel like she did, or c) because she is afraid that she will be abandoned by him. Give 1 point for each conceptually distinct hypothesis that is formulated by the student. Code also *Dialectical* 1.4 only if the student advances two hypotheses that are conceptually opposite (e.g., Tara is afraid to leave her son – or that her son would leave her). Code also *Dialectical* 1.2 (Abandonment by mother/brother → Incapacity to leave son alone at home), if the student clearly spells out the hypothesis that Tara is doing the opposite of what her mother did.

¹⁰⁴ Consider coding also *Dialectical* 1.2 if the conversion in the opposite is sufficiently spelt out.

5.3 Hypothesizing that element of the present P is re-activating/re-awakening element of the past Q

E.g., Tara's difficulties at work/Episode with the GP → feelings of not being understood. Brother's suicide → abandonment by mother. Divorce from husband → abandonments by mother/brother. Upcoming wedding → feelings of being excluded. Leaving son alone at home → loss of brother/abandonment by mother. Therapy → episodes associated to previous therapy (brother's death/divorce). Marital problems leading to divorce → feelings of not being helped by her family.

5.4 Attending to the origin

E.g., Hypothesizing that a single event of the past (e.g., brother's suicide, mother's abandonment) has never been overcome or elaborated, or that all of Tara's suffering can be traced back to that (e.g., unresolved grief). Wondering what the beginning of Tara's therapy (e.g., her being late at the first appointment) tells about the likely unfolding of rest of the process. Hypothesizing that Tara is still angry towards her family for never sharing with her the reason why her mother left. Seeing her brother (or herself as a child) in her son.

Dynamic

6.1 Naming (or re-naming) affective states¹⁰⁵

¹⁰⁵ If the affective state (e.g., fear, jealousy) is hypothesized to be a driving factor underlying a behavior, do not code 6.1 but 6.3. Code both 6.1 and 6.3 only if the student names the affective state and then, later in their CC, posits that the affective state is the motive driving a certain behavior.

E.g., Naming: *Anger*¹⁰⁶ (e.g., in relation to her mother/GP/employer). *Sense of guilt* (e.g., for having caused her mother's departure/for not having been able to prevent her brother's suicide/for abandoning son at home). *Fear of judgement* (e.g., in relation to her family at the wedding). *Fear of abandonment* (e.g., in relation to her mother/brother/son)¹⁰⁷. Re-naming¹⁰⁸: *Not anger, but sadness* (e.g., in relation to her aunts). *Not sadness, but anger* (e.g., in relation to her mother).

6.2 Attending to the transformation of affective states¹⁰⁹

E.g., Hypothesizing that: the anger that Tara has towards her mother was transferred to her aunts; the anger that Tara has towards her mother/aunts was transferred to her GP/employer; the investment that Tara lacked from her family, she is transferring on her son; the anger that Tara has towards her mother/family is not expressed and gets turned against herself.

6.3 Positing that behavior B is driven by underlying affective state D¹¹⁰

¹⁰⁶ Do not count the anger that Tara feels towards her aunts/family, because it is already contained in the vignette.

¹⁰⁷ Do not code this automatically every time that you code *Formal 3.2, Abandonment*. Consider whether the student is paying attention to the fear of abandonment as an affective state underlying Tara's behavior.

¹⁰⁸ If the student questions the name of an affective state and proposes an alternative one (e.g., "is it really anger, or is it rather sadness?"), then give 1 point to *Dynamic 6.1* and one to *Investigative 4.4*. However, if the student only questions things (e.g., "is it really anger?"), then do not give a point to *Dynamic 6.1*, but only one to *Investigative 4.4*.

¹⁰⁹ Code also *Genealogical* if the criteria for 5.1 or 5.2 are met.

¹¹⁰ B has to be a behavior. Only secondly, it can be an emotional reaction (e.g. an anxious response to an event). Only in rare cases, it can be a cognition (e.g., a belief). D, on the other hand, has to be an emotion (e.g., fear, anger). Only secondly, it can be a feeling (e.g., sense of guilt). Only in rare cases, it can be a belief (e.g., that nobody will help her). However, in all cases, the patient has to be unaware of D (i.e., D has to be unconscious). When the student carries out an operation through *Dynamic 6.3*, consider whether they deserve a second point for

E.g., D (desire to test the therapist/fear of not being listened/feeling that she does not deserve help) → B (10-month gap/delay on first appointment). D (wanting to express anger towards employer/wanting to self-punish) → B (taking unpaid leave). D (fear of abandonment) → B (not wanting to leave her son at home/homeworking)¹¹¹. D (desire to elicit a care response/express anger/"cries for help") → B (health behaviors/requests to GP or employer). D (fear of re-living experiences of the past associated with her family) → B (becoming anxious about the wedding/sweating). D (fear of being abandoned by husband) → B (divorcing husband).

6.4 Attending to where the patient's investment/interest lies

E.g., Determination to get better/receive help (e.g., her insisting with GP and then finding autonomously a center where she can receive therapy)¹¹². Insistence on doing things on her terms (e.g., requests at work). De-investment from most things¹¹³. Unique investment in her son¹¹⁴. Investment in what her family will think of her (i.e., fear of judgment).

Investigative 4.4. Give this second point only when there is the implication that the truth about the real motive behind the patient's behavior was hidden (e.g., Tara says she does not want to leave the son at home for his sake, but maybe it is because of her own fear of abandonment).

¹¹¹ Give 1 point for each conceptually distinct hypothesis that the student puts forth about the motives underlying Tara's feeling uncomfortable leaving her son alone at home.

¹¹² If the student notices Tara's ambivalence towards getting help through *Dialectical 1.1*, but they sufficiently develop the first pole (A) about her insistence on getting help, double code *Dialectical 1.1* and *Dynamic 6.4*.

¹¹³ It is not sufficient to notice Tara's general "lack of motivation" or to list de-motivation among other symptoms.

¹¹⁴ If the latter two operations are merged into one ('Tara does not seem to be interested in anything *but her son*'), then give only 1 point. If Tara's investment in her son is qualified as excessive, then code also *Investigative 4.2*.

Appendix C

Nonparametric tests for between- and within-group differences on outcome variables and acceptability scores

Outcome variables	Between groups comparison ^a		Within groups comparison ^b	
	Pre-test	Post-test	Target	Control
Psychoanalytic CC skills				
Dialectical	$H(1) = .46, p = .50$	$H(1) = 33.48, p < .001^*$	$\chi^2(1) = 25.97, p < .001^*$	$\chi^2(1) = 1.39, p = .24$
Symbolic	$H(1) = .71, p = .40$	$H(1) = 5.81, p = .016^*$	$\chi^2(1) = 1.60, p = .21$	$\chi^2(1) = .02, p = .88$
Formal	$H(1) = 2.16, p = .14$	$H(1) = 2.78, p = .10$	$\chi^2(1) = 1.26, p = .26$	$\chi^2(1) = .21, p = .65$
Investigative	$H(1) = .71, p = .40$	$H(1) = 21.40, p < .001^*$	$\chi^2(1) = 10.80, p = .001^*$	$\chi^2(1) = 3.00, p = .09$
Genealogical	$H(1) = .02, p = .89$	$H(1) = 3.74, p = .05$	$\chi^2(1) = 2.57, p = .11$	$\chi^2(1) = .64, p = .42$
Dynamic	$H(1) = .22, p = .64$	$H(1) = 9.55, p = .002^*$	$\chi^2(1) < .001, p = 1.00$	$\chi^2(1) = 3.00, p = .08$
Overall	$H(1) = .19, p = .66$	$H(1) = 21.49, p < .001^*$	$\chi^2(1) = 6.12, p = .01^*$	$\chi^2(1) = 4.74, p = .03^*$
Quality ratings				
Degree of inference	$H(1) = .16, p = .69$	$H(1) = 4.66, p = .031^*$	$\chi^2(1) = .64, p = .42$	$\chi^2(1) = 4.08, p = .04^*$
Precision of language	$H(1) = .04, p = .85$	$H(1) = 1.21, p = .27$	$\chi^2(1) = .23, p = .63$	$\chi^2(1) < .001, p = 1.00$
Comprehensiveness	$H(1) = .24, p = .62$	$H(1) = .034, p = .85$	$\chi^2(1) = .78, p = .38$	$\chi^2(1) = 1.88, p = .17$
Overall	$H(1) = .01, p = .93$	$H(1) = 2.25, p = .13$	$\chi^2(1) = .07, p = .79$	$\chi^2(1) = .020, p = .89$
Self-efficacy	$H(1) = .01, p = .93$	$H(1) = .92, p = .34$	$\chi^2(1) = 42.12, p < .001^*$	$\chi^2(1) = 49.60, p < .001^*$
Acceptability				
Teaching method		$H(1) = .14, p = .70$		
CC model		$H(1) = 15.70, p < .001^*$		

^a Kruskal Wallis tests.

^b Friedman tests.

* $p < .05$.

