that satisfies the necessary conditions of having mind, by any means and through any process.

If Parmenides and Confucius, *p-form* and *c-form*, interact, then they do not only do $x$ or $y$, but at the very least $x(y)$ or $y(x)$. Generally understood, the function or activity $\mathcal{F}$ characterizes or epitomizes $E$-form as a form that encompasses all that interacts. In other words, 'the encompassing form $E$ to which both Parmenides (*p-form*) and Confucius (*c-form*) belong, at the very least, does $x(y)$ and $y(x)$'. The program has constructed an encompassing form with additional cognitive abilities by extracting and elaborating the underlying cognitions or commitments of the interacting forms. At the very least what the program can do or bring about is $x(y)$ and $y(x)$—that is, the operational content of the data (theoretical, practical, aesthetic) constructed by the interaction between two rational life forms.

At any rate, it is the impersonal form $E$ that determines what the forms of Parmenides and Confucius are, and supplies them with abilities that do not inherently belong to who they are or what they represent. The *p-form* and *c-form* become incorporated into a form that does not merely transcend them and afford them cognitions they could never have developed on their own, but also becomes the ground of the *intelligibility* of their respective forms and their normative behaviours. In other words, without this encompassing form, neither Parmenides nor Confucius could be conceived *as intelligible* forms. Their forms and their respective functions can now be offered in the agora.

In the broadest sense, the philosophical program can thus be understood as that which constructs new blueprints of cognitions by systematically searching for interacting data (theoretical, practical, aesthetic, etc.) that typify rational life forms. Depending on how interactions (exchanges between data) are performed and regulated, what strategies are followed, whether the interactions are synchronic or diachronic, elementary or complex, the program can construct encompassing realizabilities untethered both from any specific rational life-form and from the specific content explicit in what they say or do (i.e., data). For this reason, a program—in this case, philosophy as such—is a wholly impersonal exercise. To conclude, a program is a systematic self-grounding. Philosophy as such conceives itself as a *systematic* absolute self-establishment that constructs itself impersonally

from saying and doings (data) that are incorporated, revised, or discarded in ever more encompassing cognitions.[324]

Within the programmatic framework of philosophy, thoughts are no longer sacrosanct elements eternally anchored in some absolute foundation, but active processes that can be updated, repaired, terminated, or combined into composite acts through interaction. These composite thought-acts exhibit complex dynamic behaviours that could not be generated were the thoughts taken in isolation, had they not become the environment of one another. New thoughts and their possible realizabilities can be constructed by experimenting with the operational architecture of the program. This experimentation involves both a controlled relaxation of existing constraints on thoughts and how they interact, and the addition of new constraints.

Just like any program, the meaning of philosophy as a program is not entailed by its data or truth-candidate thoughts—what they refer to or what they denote—but by how and under what conditions they interact. The right question in addressing a program is not 'What do these data stand for, what does this program mean?', but 'What is this program, how does it act, what are its possible operational effects, how does it construct its realizabilities?' Detached from semantic utility, the meaning of the program is paradigmatically actional. Philosophy has no utility other than mobilizing thoughts for thought's ends. Philosophy is a special kind of a program whose meaning is dependent upon what it does and how it does it: *it is only what it does*, and what it does is to explore the ends of thought by building upon the possibility of thinking. It is a special kind of program in that it is deeply entangled with the architecture of what we call thinking.

### DATUM 4. NAVIGATING THOUGHT'S RAMIFIED PATHS

*Philosophy is a program whose primary data are those pertaining to the possibility of thinking as such. Its task is to elaborate the realizabilities behind this possibility*

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324 For an exceptionally meticulous argument against the refutations of philosophy's absolute self-grounding, particularly the charge of Münchhausen trilemma, see Puntel, *Structure and Being*, 52–64.

*in terms of what can be done with thought or, more broadly, what thought can realize out of itself. If thought is or could be possible at all, then what would be the ramifications of such a possibility?*

The significance of philosophy lies in this simple yet vastly consequential trivium: that it uses the possibility of thinking (or thought as an act) as its premise, as a truth-candidate datum that can be systematically acted upon. In doing so, philosophy commits to the elaboration of *what comes after the premise*, i.e., what can be realized from thought and what thought can do, or, more accurately, the possibility of a thought set on developing its own forms and functions.

What ought to be underlined here is that the possibility of thinking should not be conflated with the assertion that thought *exists*, nor with what is thought *of*, or the object of thought. In accord with Plato, the possibility of thinking or thought as an act is in fact the possibility of nonbeing as the formal condition of thinking qua negativity. The possibility of nonbeing in this sense is grounded in the *formal*, rather than substantive, distinction between that which is and that which is not. To collapse thinking into being is to elide the distinction between that which is formally distinguished from being and that which fails to substantively distinguish itself from being. Therefore, to say that thinking is possible is, at bottom, an assertion regarding the formal distinction between thought and being.

Without such a formal distinction, there would be no knowledge (whether *episteme* or *gnosis*) of being in the first place that could subsequently become corrupted into pathologies where thought and being become mixed, with thought demoted to matter or matter promoted to the idea (idealizing matter or materializing the idea). The formal nonbeing of thinking is precisely formal negativity, as encapsulated in the function of logic and language that distinguishes that which is not from that which is. This formal function does not mirror nature, but halts the indeterminate flux of things, or makes determinate distinctions in that which is at rest by cutting the continuum of reality at its joints. It separates what is already indeterminate and determinately combines what is already discrete. This is a position that is unabashedly favourable to Plato's, as is the remainder of this chapter. Of course, by now it should be obvious

that logic here does not mean classical logic, and that language should not be essentially taken to mean natural language. Indeed, in light of the developments in theoretical computer science and interactive logic discussed in the previous chapter, the distinction between logic and language may soon prove unnecessary.

One can and should always attempt to give an account of the conditions of thinking in terms of physical processes, in tandem with the empirical sciences. Yet it is a category mistake to claim that revealing how thinking is ultimately realized as a furniture of the world (if that is even possible or logically well-founded at all) would enable us to say what thoughts in their formal rule-governed dimension are. The criterion of what thoughts are is ultimately formal, not substantive (otherwise, it could be explained away as just more furniture of the world). In other words, there is a categorical gap between how thinking is conditioned by natural processes and what thinking is *formally* in itself. In determining what thinking is from the perspective of nature, one has no recourse to anything extra-cognitive. One cannot but operate within the rule-governed dimension of thinking as formally differentiated from being, which is also a prerequisite for the recognition of nature as the universe of all that is and the explicitation of primary facts pertaining to it.

As a primary datum of philosophy, the possibility of thinking can always be called into question by a variant of the eristic argument put forward by Meno's paradox, the archetype of all self-paralyzing gestures of the sophist:

> *Either A*: We know that which we seek (here, what thinking is),
> *Or* B: How on earth can we examine or seek something if we do not know what it is?
> If *A* holds then the inquiry or search is not possible.
> If *B* holds then we can never know whether what we have stumbled upon is that which we sought to find or know.
> *Therefore*, knowing, the inquiry (into what thinking is), is impossible.

In responding to Meno's paradox, one can reanimate (Plato's) Socrates's mirroring manoeuvre in order to make explicit how incoherent this position is, but also to dialectically sublate it: Let us assume that we cannot learn what

thinking is, for we already know what it is; or else that we can never know what thinking is, and hence the whole enterprise is a sham. It soon becomes clear that the Menoic sceptic or sophist is ignorant of what he is ignorant of when positing the paradox. Thus the paradox itself, which is posited as an either-or disjunction, becomes incoherent as a paradox, if not completely impossible. For it is revealed to be based on the implicit assumption that the unknown is discontinuous with the known. In other words, it is built on a false conception of knowledge that does not take into account the fact that what is unknown is only unknown insofar as it stands in relation to what is known. As John Sallis puts it, the paradox is built on the assumption that 'the domain of knowledge is totally discontinuous, that it consists of discrete, individual items none of which are linked in any way to any others'.[325] The Menoic sceptic can only valorise the unknown as eternally unknowable by piggybacking on what he already knows. For how else can he distinguish the unknown—as that which is only unknown by virtue of what is known—as the unknowable? Plato's solution consists in providing an account of semantic and epistemic holism (of what is said and what is known) by suppressing, assimilating, and ultimately transforming the paradox, in so doing dissolving the either-or disjunction that is the core of the eristic argument. Accordingly, the refutation of the paradox lies not only in the rejection of the either-or disjunction that states '*either* knowledge is the same as its elements (i.e., many) *or* is different from its elements (i.e., one)', but also in the dialectical suppression and transformation—Not (either *A*-or-*B*)—of the paradox into a coherentist-holistic account of knowledge, language, and logic.

The systematic dissolution of Meno's paradox exemplifies the model by which Plato transforms ill-posited thoughts into well-posited methodical thoughts, the eristic into the dialectical, the game-theoretic into interactionist games in which both ignorance and knowledge, doubt and trust are incorporated. Plato simulates an interactive situation by pitting the sophist against his favourite player Socrates, who also always comes off as a sophist. In an interactive programmatic scenario mirroring the logico-computational account of programs given above, once the sophist and its *dual* Socrates

325 J. Sallis, *Being and Logos* (Indianapolis: Indiana University Press, 1996), 78.

begin the game of philosophy—the interaction par excellence—the solution naturally assembles itself from the exchanges between the opponent and the proponent. Philosophy thus evolves not from the logical interaction or dialogue between one who knows and one who does not, the philosopher and the sophist, but between one who is ignorant and one who strives to be less ignorant, the *know-it-all-knowing-nothing* sophist and the *knowing-that-I-know-nothing* sophist.

The possibility of thinking rests on the definition of what thinking is, but this definition is neither a total knowledge neither a total ignorance of what thinking is. Pace the Menoic sceptic, this definition is instead a mixture of knowledge and ignorance, a movement between the mitigation of ignorance and the preservation of ignorance—a movement that is knowledge.

There are numerous ways to disarm the Menoic sceptic who objects, 'let us suppose, for the sake of entertainment, that philosophy begins with the assumption that thinking is possible, but that would require us to know what thinking is', and then goes on to employ a variation of the paradox to conclude that 'the definition of thinking or the inquiry into *what thinking is* is not possible, and therefore philosophy's enterprise to proceed from the possibility of thinking is fraudulent from the outset'. I do not wish to enumerate possible strategies against the Menoic. I have provided only one strategy among others. Instead, I would rather claim that the definition of 'what thinking is' is indeed circular. This circularity is precisely what warrants the formal stability of this definition; properly speaking, it is the transcendental armature of thinking. For not all circularities amount to logical contradictions or tautologies. In mathematics, definitions of mathematical objects are always circular without being logically contradictory in a negative sense. The circularity of definitions—such as the explicit category-topos-theoretic definition of the point—liberates them from the myth of more fundamental mathematical definitions. It permits the definition to be compact yet nontrivial, and so permits a step-by-step process of unpacking and variation.[326] In the same vein, the circular

326 See R. Negarestani, 'Where is the Concept?', in R. Mackay (ed.), *When Site Lost the Plot* (Falmouth: Urbanomic, 2015), 225–51.

a priori transcendental definition of thinking enables the elaboration of what thinking is and what it can possibly turn into—its realizabilities.

The choice of data is a programmatic initiative because it opens up the prospect of constructing different realizabilities from the content of the data. Rather than simply being a neutral assumption—or worse, an entrenched dogma—philosophy's programmatic treatment of the possibility of thought is the first major step toward programming thinking as such.

Once the possibility of thinking is adopted as an explicit datum (as that which must be acted upon), thinking becomes a matter of extracting and expanding the operational content implicit to the possibility of thought qua datum. The focus of thought's operational activities—the acts of thinking—is turned toward the elaboration of the content of the datum—the possibility of thinking: articulating what can be done with such a possibility and what thinking can become by acting on its very possibility. In other words, philosophy *programs* thought to systematically act on itself, to realize its own ends and demands, and to have as its main vocation a disciplined and persistent reflection on the prospects of its realizabilities. The term 'realizabilities' from now on means what can possibly arise from thinking *such that it would change the very conditions of thinking, whether such conditions are taken to be formal, experiential, social, or historical.* Philosophy's programmatization of thinking turns into the core implicit assumption of all claims and actions regarding what is to be thought or done, not thought or not done. Thinking is no longer merely exercised as a non-optional practice, but as a theoretical-practical enterprise without which there is no warrant for any thought or action.

This is where 'philosophy as a program' overlaps with 'philosophy as a form of thinking whose project is to turn thinking into a program'. By beginning with the possibility of thinking, with the transcendental circularity of what thinking is, philosophy uses the resources of thought to determine the scope of thought's realizabilities; philosophy becomes thought's program for exploring and bringing about its own realizations. Put differently, philosophy's tacit assertion that 'thought is programmable' is repurposed by thought as its principal normative task: 'thought ought to be programmed'. It is through this normative task that thought explicitly

posits its own ends and augments the prospects for what it can do to its very conditions and, by extension, to us. Philosophy, in this sense, is more than simply one mode of thought among others. It is thought's own cognitive-practical prosthesis—a geistig appendage—for developing and augmenting the drive to self-determination and realization. A thought that has a drive to self-realization is a thought that, before anything else, secures its own ends. But to secure its ends, thought must issue and prioritize its own demands.

These demands are first and foremost concerned with wresting thinking from heteronomous influences, be they associated with a higher authority, with the contingent conditions of its original setup, with the conditions of its development, or with final or material causes. However, as these demands evolve, their focus shifts away from a resistance against the hold of heteronomy, toward an active articulation of the consequences brought about by the formal autonomy of thinking. Formal insofar as the substantive autonomy of conceptualizing mind is only a relative heteronomy for itself and an absolute heteronomy in nature. The demands of concrete autonomy are those which require a shift from the demands of a realized thought to those of a thought for which what is already realized—i.e., its current state or present instantiation—is not itself a *sufficient* expression of autonomy. This is a thought that makes its autonomy explicit by identifying and constructing its possible realizabilities. Its demands are centred on the prospects of a realization of thought by *different material realizers* (not to be confused with realizers as conditions necessary for the possibility of thinking) in the encompassing sense of physical, experiential, social, and historical conditions of realization. Different only in that they are more compatible with the elaboration of thought's own autonomy, ends, and demands.

In other words, these demands revolve around the possibility of reconstituting thought outside of both what currently constitutes it and how it is constituted. They are the demands to reclaim and elaborate the possibility of thought, but no longer under the limitative terms laid down by its native realizers (or constituents) or thought's present conditions of realization.

Accordingly, this reprogramming overhaul is not limited to only those material realizers or constitutive components and mechanisms that are

directly at odds with thought's autonomy. It includes also those internal constitutive features that restrict the scope of thought's realizabilities. It does not matter whether such realizers belong to biological evolution or sociocultural constitution. For as long as they restrict the prospects of thought's autonomy (the scope of its possible realizabilities, its ends and demands), they are potential targets for extensive overhaul and reconstruction.

In order for thought to maintain its autonomy—in the sense of its being able to institute and adjudicate its own ends—it must adjust or replace those conditions and constituents that impinge upon its current state and the scope of its own interests. But in order for thought to be able to elaborate and follow up the consequences of the autonomy of its ends, to render intelligible the ramifications of its possibility, it must free itself from those terms and conditions that confine it to one particular state of realization. This systematic move toward separating the possibility of thinking from the circumscriptions of a singular state of realization is the beginning of a cognitive-practical inquiry into the possible realizabilities of thought. And it is precisely by investigating the possible realizabilities of thinking in all domains of thought that the consequences of thought's autonomy and the ramifications of its possibility can truly be made intelligible.

In this sense, the inquiry into the possible realizabilities of thought is synonymous with an inquiry into purposes of thought neither given in advance nor exhausted by thought's present instantiation. Indeed, the inquiry into the meaning and purposes of thought can only radically begin via a thoroughgoing theoretical and practical project aimed at reconstituting the possibility of thought outside of its contingently situated constitution and its current realized state. Determining what thought is, what its purposes are, and what it can do, then becomes a matter of exploring and constructing different realizations of thought outside of its familiar biological, social, and historical habitat.

Thought's program to institute its autonomous ends leads up to a phase in which thinking is compelled—via the imperative of its time-general ends—to define and investigate its purposes by recasting its current state of realization. This phase marks a new juncture in the development of

thought's autonomy because it involves the unbinding of both the realizabilities and purposes of thought. To this extent, the organized venture toward the functional realization of thought outside of its native home and designated format is in every sense a program for the decontainment of thought. It is therefore a distinctly philosophical endeavour, in that it reenacts an enduring philosophical wager, 'thought cannot be contained', as a practical demand: 'thought ought not to be contained'.

What was initiated by philosophy's seemingly innocent datum regarding the possibility of thinking is now a program that directs thought to theoretically and practically inquire into its futures—understood as prospects of realizability that are asymmetric to its past and present. The thrust of this program is that the scope of its operations and constructive manipulations encompass both realizer and realized, both constituent and constituted, what thought is made of and what thought manifestly appears to be. As the ultimate expression of the demands of thought, this transformative program is exactly the distillation of the perennial questions of philosophy—what to think and what to do—propelled forward by an as yet largely unapprehended geistig program called philosophy's chronic compulsion to think.

### DATUM 5. THOUGHT AND THE ARTEFACT

*By reformatting thinking from a by-product of material and social organization into a programmatic normative enterprise that rigorously inquires into its operational and constructive possibilities, philosophy introduces a vision of the artificial into the practice of thinking. Rather than a thought that is simply accustomed to the use of artefacts and has a concept of artificiality, this is a thought that is itself a practice of artificialization, and becomes the artefact of its own ends.*

The concept of the artificial signifies the idea of craft as a recipe for making something whose purposes are neither entailed by nor given in its material ingredients, even though they are afforded by the properties of those ingredients. These purposes should be understood not solely in terms of (external) purposes for which the product of the craft (the artefact) is used, but also as potential functionalities related to possible realizabilities

of the artefact itself, regardless of its use or purpose of consumption. In this respect, the artificial expresses the complex and evolving interplay between external functionality (the context of use as the external purpose of the craft) and the possible realizabilities of the artefact itself. This interplay can be seen as a process of *harnessing*—in both the constraining and productive senses—that couples function qua use of the artefact with function qua instantiation of its possible realizabilities. By coupling these two categories of function, the process of artificialization produces or harnesses new functionalities and purposes from the positive constraints established between the use and realizabilities of the artefact.

The role of an artefact in practical reasoning is inherently double-faced to the extent that it is simultaneously determined by the established purpose of its consumption and the realizabilities of the artefact itself. The structure of practical reasoning about artefacts (as in 'artefact *a* is a means to bring about outcome *c*, so I ought to use *a* when in situation *s* as a means to *c*') is affected by this interplay between uses and realizabilities. If we take the purpose of an artefact (its established context of use) as a premise for bringing about a certain outcome, the realizabilities of the artefact can then be thought of as the addition of new axioms with new terms or premises that weaken the idempotency and monotonicity of entailment in practical reasoning. The same instances of application for a given artefact may lead to different consequences or ends (weakening of idempotency), and the addition of new assumptions regarding the use of an artefact may change the end for which an artefact is a means (weakening of monotonicity). The duplicity of artefacts is an expression of the failure of idempotency and monotonicity of entailment for the role played by artefacts in practical reasoning. This is precisely the duplicity attributed to the cunning figures of the trickster, the trap-maker, the artificer, and the navigator of deep waters—those who are aware of the volatile role artefacts play in their practical reasoning.[327]

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327 See M. Detienne and J.-P. Vernant, *Cunning Intelligence in Greek Culture and Society*, tr. J. Lloyd (Chicago: University of Chicago Press, 1991).

Idempotency and monotonicity of entailment are structural rules that operate directly on judgments or the deductive relations between antecedents and consequents. Idempotency of entailment states that the same consequence can be derived from many instances of a hypothesis as from just one ('$A, B, B \vdash C$' can be contracted to '$A, B \vdash C$' leaving the entailed consequence $C$ intact). Monotonicity of entailment, on the other hand, means that the hypotheses of any derived fact can be arbitrarily extended with additional assumptions ('$A \vdash C$' can be assumed as '$A, d \vdash C$' where $d$ is the additional assumption and $C$ is the unchanged consequence). Here, the turnstile symbol $\vdash$ denotes entailment, with antecedents on the left-hand side of the turnstile and consequents on the right-hand side. Idempotency of entailment implies the availability of antecedents as free resources (in the context of reasoning via artefacts, different instances of application or use for a given artefact do not change the outcome). Monotonicity of entailment implies the context-independency of reasoning (extending the role of an artefact or adding new assumptions about its use in bringing about some ends does not alter the result).

Artificialization can, therefore, be defined as a process aimed at functionally repurposing and exhibiting a vastly non-inertial and non-monotonic behaviour with regard to the consequences or ends of using an artefact crafted for an external 'common' purpose. This repurposing can manifest itself as the augmentation of the existing realization of the artefact, the abstraction and transplantation of some existing function or salient property into a different or entirely new context of use and operation, the readaptation of an existing use to a different instantiation of an artefact's realizabilities, or, in its most radical form, the construction of both new uses and new realizations by engaging in a craft that involves both a new mode of abstraction and a deeper order of intelligibilities (of materials and practices).

If what underlies the concept of artificialization is constructive adaptation to different purposes and realizabilities, then in realizing its own ends and adapting its realization to the growing demands of such ends, thinking turns into a radical artificializing process. At its core, a thought amplified by philosophy to systematically inquire into the ramifications

of its possibility—to explore its realizabilities and purposes—is a thought which in the most fundamental sense is a rigorous artificializing program: a duplicitous artefact which, in being used toward some external 'common' ends, develops and pursues its own necessary ends.

This thought is at once dedicated to conceiving and adapting to new ends, and committed to a program of concrete self-artificialization. For a thought that has its own ends and demands, self-artificialization is an expression of its commitment to exploring its possible realizabilities, to reclaiming its possibility from heteronomous and limitative terms imposed by its natural realizers and native habitat. In other words, it is an expression of its commitment to the autonomy or rule of its ends.

However, in order for thinking to examine its possible realizabilities, it must first establish its inherent tractability to the process of artificialization. That is, the first step is to show that thinking is not an ineffable thing but an activity or a function, special but not supernatural, and that it can be programmed, repurposed, and turned into an enterprise for the *design of agency*, in the sense that every step in the pursuit of this enterprise will have far-reaching consequences for the structure of the agency that uses it.

This is what is exemplified in its most resolute form in the earliest practices of philosophy, particularly the Cynic, Stoic, and Confucian proposals regarding the programmatic aspects of thinking: to understand thinking itself as an administrative function, not to isolate thinking from living but to treat life as a craft of thinking; rather than disposing of emotions and affects, to give them structure by bringing them in line with the ends of thought; and to demonstrate at every step of life the possibilities of thinking as a purpose-conferring and repurposable activity. Succinctly put, the common thesis underlying these programmatic philosophical practices is that, in treating thought as the artefact of its own ends, one becomes the artefact of thought's artificial realizabilities.[328] The field of experience—in

328 For introductions to the philosophies of ancient Cynicism, Stoicism, and Confucianism, see: W. Desmond, *Cynics* (Stocksfield: Acumen, 2006); J. Sellars, *The Art of Living: The Stoics on the Nature and Function of Philosophy* (Bristol: Bristol Classical Press, 2009); P.J. Ivanhoe, *Confucian Moral Self Cultivation* (Indianapolis: Hackett, 2000).

both its bodily and its minded dimension—can only be enlarged by pursuing the interests of thought.

This is one of the most potent achievements of philosophy: by formulating the concept of a good life in terms of a practical possibility afforded by the artificial manipulability of thinking as a constructible and repurposable activity, it forges a link between the possibility of realizing thought in the artefact and the pursuit of the good. The idea of the realization of thinking in artefacts can be presented as an expression of thought's demand to expand its realizabilities. Therefore it can be framed in the context of crafting a life that would satisfy a thought that demands the development of its possible realizabilities in whatever form or configuration possible—that is, a thought whose genuine intelligibility lies in the exploration of what it can be and what it can do.

The craft of an intelligent life-form that has at the very least all the capacities of the present thinking subject is an extension of the craft of a good life as a life suited to the subject of a thought that has expanded its inquiry into the intelligibility of the sources and consequences of its realization. To put it in another way, it is the design of a form of life appropriate and satisfying to the demands of a thought that has not only theoretical knowledge of its present instantiation (the intelligibility of its sources) but also the practical knowledge to bring about its possible realizabilities (the intelligibility of practices capable of unfolding its consequences). This is as much a thesis regarding a nonparochial conception of artificial general intelligence as it is a thesis about the realization of a sociohistorically conscious intelligence encompassing all forms of conceptualizing minds both past and present. It has now become apparent that, once philosophy's basic datum regarding 'the possibility of thinking as the artefact of its own ends' is elaborated, it amounts to the primary thesis of philosophy regarding the equality of all minds. Whatever or whoever recognizes the possibility of thinking as the basic datum for the construction of its life, becomes the artefact of thought's ends. And whoever or whatever becomes the artefact of thinking also becomes a commoner—equal to all others—of thought's impersonal ends and interests.

The second stage in demonstrating that thinking as an activity can indeed be artificialized involves a coherentist analysis of the nature of this activity. This analysis can be understood as an investigation into the sources or origins of the possibility of thinking (the different types of conditions necessary for its realization). Without this investigation, the elaboration and development of the consequences of thinking—its possible realizabilities—cannot gain momentum.

If thinking is an activity, then what is the internal logic or formal structure of this activity, how is it exercised, what does it perform, can it be analysed into other more rudimentary activities, and what are the mechanisms or processes that undergird these precursor activities? In posing such questions, the philosophically motivated inquiry into the intelligibility of thinking lays the groundwork for a broader analysis of the nature of the manifest activity we call thinking. In this way, philosophy's programmatization of thinking sets in motion the scientific inquiry into the nature of thinking.

Thinking is examined both in terms of its internal and special pattern-uniformities and in terms of the underlying and more general patterns in which these specificities are materially realized. In other words, the analysis of thinking as an activity encompasses two dimensions of thinking as a function: function in the sense of the internal pattern-uniformities of thinking, or rules, that make up the performance of the activity as such; and function in the sense of the mechanisms in which these rules or internal pattern-uniformities (i.e., the first sense of function) are materialized. The latter are always modelled on the former, and it is only by cohering and revising the former that the scope of the latter can be broadened.

Accordingly, the philosophical examination of the nature of thinking bifurcates into two distinct but integrable domains of analysis: the explication of thinking in terms of functions or the logico-linguistic roles its contents play (the normative qua rule-governed order of thinking as such); and the examination of materialities—in the general sense of natural and social mechanisms—in which this logico-conceptual structure in its full richness is realized (the causal order pertaining to the materialization of thinking).

To this extent, the philosophical program canalizes the inquiry into the possibility of thinking as a programmable and repurposable activity into two, broadly idealist-rationalist and materialist-empiricist naturalist, fields. In doing so, it lays out the framework for specialized forms of investigation informed by the priorities of these fields. Roughly, these are, on the one side, linguistic and logical examinations that focus on the semantic, conceptual, and inferential structure of thinking (the linguistic-conceptual scaffolding of thinking); and on the other side, empirical investigations dealing with the material conditions (neurobiological as well as sociocultural) required for its realization.

These trajectories can be seen as two vectors that deepen the intelligibility of thinking by analysing or decomposing its function into more fine-grained phenomena or activities within the logical and causal orders. Within this twofold analytic schema, phenomena or activities that were previously deemed unitary may appear to be separate, and those considered distinct may turn out to be unitary. The conceptual and causal orders are properly differentiated only to be revealed as converging on some fundamental elementary level. Thinking is shown to be possible not in spite of material causes and social activities but by virtue of *specific kinds* of causes and mechanisms. In this fashion, the deepening of the intelligibility of thinking as an activity joins the boundaries of these two fields, as the intelligibility of thinking—its realization—ultimately resides in an accurate integration—but not a homogenous fusion—of its logico-conceptual and material-causal dimensions.

## DATUM 6. PHILOSOPHY AS AN ARCHIMEDEAN LEVER FOR LIFTING INTELLIGENCE AND MOVING THE WORLD

*Viewed from an Archimedean point in the future of thought's unfolding, philosophy is seen as that which has instructed thinking to become a systematic program, only as a way of organizing it into a project for the emancipation of intelligence. This is the unexpressed role of philosophy as a fulcrum through which the aims and agendas of intelligence gain leverage on the world of thought. Assembling the scaffolding of a future philosophy requires that we move the fulcrum, turning philosophy's formerly*

*tacit role into its explicit task—a prop on which all thoughts and practices can be a lever for lifting intelligence from its contingently established place.*

As outlined earlier, the bifurcation of the inquiry into the possibility of thinking into two, broadly rationalist-idealist and naturalist-materialist, trajectories should also be construed as a necessary epistemic strategy. From an epistemic angle, the commitment to multiple explanatory-descriptive levels allows an expanded and in-depth analysis of the cognitive architecture in a fashion that would not be possible through an approach built on a single schema. A multimodal approach provides increasingly refined pictures of distinct types of pattern-governed behaviours and processes distributed across different orders of structural-functional complexity, dependency-relations, and their specific constraints. More explicitly put, the branching and canalization of the analysis—the specialization of knowledge that truly contributes to its complexity—is necessary for a fine-grained determination of distinctions and correlations between the logical-conceptual and causal-material dimensions of thinking.

It is through this fine-grained differentiation and integration of explanatory-descriptive levels that the conditions necessary for the realization of thinking as an activity that comprises a broad range of cognitive and intellectual abilities can be accurately specified. Determination of what these necessary conditions are and how they are arranged and effectuated is already a basic roadmap for the artificial realization of thought. As the intelligibility of thought's realization is progressively deepened, the thought of the possible realization of thinking in something other than its current instantiations becomes more intelligible. Yet that *something other* should be treated in the broadest possible sense, not merely in the sense of something other than biological homo sapience, but more comprehensively in the sense of something other than the sociohistorical moment that dissimulates itself as the totality of thought. The analytic specialization of the knowledge of what thinking is proves to be the knowledge of how thinking can be extricated from contingencies that restrain its realizabilities from below. Intelligence does not make itself by speculating and gawking into the sky above, but by releasing itself from what holds it back from below.

In a gesture analogous to the Newtonian revolution, intelligence systematically abolishes the illusory frontier that isolates its world *on high* from its world *below*, the cosmological from the terrestrial. Through the sciences of cognition (theoretical and practical) combined with the recognition of history as a condition that is both restricting and enabling, intelligence extricates itself from any realized totality that feigns the absolute. This is an intelligence whose course of maturation coincides with the impersonal ends of reason equipped with both sciences and technologies of cognition. The intelligence that inhabits the unnatural space of reason—a space that is neither natural nor supernatural—stands in contrast to any register of intelligence as a force of nature—a mythic intelligence that, under the much vaunted increasing complexification of nature, becomes a gateway for the return of its dogmatic repressed: an authoritarian account of nature which is only an excuse for the reinstallation of the monarchs of religion, politics, technology, and economy. It is no accident that the provocateurs of technological singularity and intelligence as the unstoppable vector of the complexification of nature also happen to be ardent ideologues of monarchy, race realism, social Darwinism, gender essentialism, nationalism, and other anti-emancipatory conspiratorial buffooneries.

If the activity we call thinking is realized by such-and-such functional capacities, and if these capacities can be analysed in terms of their realizers—the specific conditions, processes, and mechanisms required for their realization—then would it be possible to reconstruct or artificially realize such functions? In other words, would it be possible to reproduce and integrate these functional capacities through a combination of strategies that involve the simulation, emulation, or re-enactment of functions and/or their material realizers? More simply, if thinking is such-and-such and if it is materialized in thus-and-so mechanisms and processes, then how can it be reformed and rematerialized in something else?

This is the question that shapes the field of artificial general intelligence as a program seeking to integrate the intelligibility of different dimensions of thinking, in its full perceptual and apperceptive semantic complexity, under one ideal task: designing a system that has at the very least the complete package of human cognitive abilities with all the capacities that such

abilities imply (diverse and comprehensive learning, different modalities and levels of knowledge and knowledge-use, reasoning, deliberation, belief formation independent of current perception, competencies enabled by different levels of semantic complexity as specialized and context-sensitive modes of computation, and so on).

Before moving forward, let us pause and question what is meant by the simulation, emulation, and reenactment of thinking. The technical definitions of these terms are beyond the scope of this book, yet without a minimal acquaintance with what these terms actually refer to, confusion will be inevitable. Simulation, emulation, and reenactment refer to three distinct processes for the artificial realization of behaviours. A simulation imitates some specific and outwardly observable aspects of the simulated system's behaviour, but is implemented in a different way. Simulation involves modelling the sufficient details of the underlying state of the system *singled out for the purpose of simulation*. Emulation, on the other hand, replicates the inner workings of the system being emulated and adheres to *all of its rules* in order to reproduce exactly the same *external behaviour*. The target of reenactment, on the other hand, is neither the imitation/reproduction of observable functional properties nor the replication of the inner workings of the system. Instead, a reenactment attempts to identify and reconstruct parameters under which the system structurally and functionally evolves through an ongoing interaction with its environment. Here the emphasis is on the coupling or interface between system and environment (the background information), the parameters of the real-time interaction, the type of interaction, and the situatedness of different behaviours and functional capacities. Behaviourism—the analysis of behaviours, whether causal or normative—is often approached by way of the simulation or emulation of outwardly observable behaviours. But all behaviours are the result of interactions between the system and its environment, between one agent and another. Therefore, they can only be genuinely realized by fine-grained methods of reenactment that distinguish between different types of interaction and interacting agents.

Rather than being considered as a pure vogue that serious thought should avoid entertaining, the core idea of artificial general intelligence