Rhythmic Nootechnics: Stiegler, Whitehead, and Noetic Life

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Abstract

In *Taking Care of Youth and the Generations*, Bernard Stiegler develops an account of the pedagogical responsibilities which follow from rhythmic intergenerational flows, involving the creation of milieus which care for and pay attention to the future, towards the creation of nootechnical milieus. Such milieus are defined by their objects of attention: political life, spiritual life, and political life; taken together: noetic life. Such is the claim Alfred North Whitehead makes when arguing that the sole object of education is *life* and the creation of an art of life which is itself a *rhythmic adventure*.

The purpose of this paper is three-fold. First, to clarify the importance of Stiegler's reading of Aristotle's notion of the noetic soul in our thinking about the role, purpose, and function of educational institutions in relation to intellective, spiritual, and political life. In this paper I will fuse this discussion with a Whiteheadian approach to rhythm, developing what I call a "rhythmic nootechnics" in the service of "nootechnical evolution" as, I argue, Whitehead's approach to rhythm allows to clarify and enrich Stiegler's reading of Aristotle. Second, and as indicated, to explore the relationship between Whitehead and Stiegler, insofar as the former has become an increasing reference point for the latter, but this relationship remains unexplored in the literature. Third, to apply this concept of "rhythmic nootechnics" to think about what transformations at the level of pedagogy and politics are necessary to reinvent the university from this Stieglerian and Whiteheadian perspective.

Keywords: rhythm; nootechnics; critical university studies; Stiegler; Whitehead

The role, purpose, and function of educational institutions is a thematic which permeates Bernard Stiegler's work. This is so insofar as his *organological* methodology is centred upon a reading of the interplay between *the who* (the human's organic retentional finitude) and *the what* (*technics,* which are those inorganic memory supports that enable this retentional finitude to be both surpassed and deferred through the generations). This analysis is organological – and Stiegler terms his approach a *general organology* – as it is a combined analysis of psycho-somatic organs, technical objects or organs, and social organ-isations, and the inter-relations between them, in which none are conceived of as developing independently from each other. As such, in Stiegler's method it is always a question of the relation between *the who* and *the what* (1998, p. 141). Educational institutions' role, in this who-what interplay, is to retain the past (retention), open to the future (protention), and continuously transfer this double generational responsibility of retention-protention at two key levels of organological analysis for the purposes of this paper. First, the level of the *psychic individual,* a term for our purposes denoting how each individual's forms of thought are constituted in relation to psycho-somatic, technical, and social organisations of a given epoch. Second, the level of the *milieu,* a term denoting how each social organisations' forms of association are constituted in relation to psychic individuals and technical organs. Building on this, this paper will engage with Stiegler in terms of these two levels through the concept of noeticity. To be more specific, this paper will discuss:

(i) The *noeticity* of the life of the *psychic individual,* drawing from Stiegler's re-conceptualisation of Aristotle's notion of the *noetic soul* (the understanding, spiritual, and political soul, derived from Aristotelian *nous* in *De Anima*);

(ii) The *noeticity* of the *milieu,* drawing from claims concerning inter- and intra-generational transmission, institutional arrangements, and the *political* relationships educational institutions have with extant political and economic conditions (our focus will be on the university specifically).

The relevance of these two levels of organological analysis for educational philosophy and theory pertains to how educational institutions function as one of the key points of contact between them in a given milieu. In these institutions, each psychic individual's noetic capacities are the putative object of development, and such institutions (politically, economically, etc.) participate in the extent to which the milieu itself is open to its transgenerational noetic development. Through focusing on these two constitutively interrelated levels, this paper seeks to make three contributions through the following structure.

The first contribution is largely exegetical, and it is to explore and clarify Stiegler's work on the purposes of educational practice and educational institutions in the light of his recent work on the foundation of contributory and *intermittent* based incomes in the first volume of *The Automatic Society* (which remains an under-discussed area). Insofar as these are premised on his reading of Aristotelian *nous* (understanding, intellection) and, relatedly, of the noetic soul, §1 will therefore exegetically focus on the elaboration of this relation in Stiegler. Through this, the notion of *nootechnical evolution* will begin to be developed in order to conceptualise more clearly transgenerational noetic development (point (ii) above). As was indicated above, Stiegler's discussion of the noetic soul, noetic milieus, and of noetic activity in general is also importantly both spiritual and political. The end of §1 will be devoted to clarifying this. It will thus be concluded here that the role of educational institutions as it pertains to these two levels in Stiegler is to (1) create the spacetime for each psychic individuals' noetic development; and (2) to create the spacetime for the milieu's continual nootechnical evolution.

The second contribution is to further this exegetical analysis through a synthetic reading Alfred North Whitehead's works on *rhythm* and education *alongside* Stiegler. The notion of *nootechnics,* drawn from Stiegler, will be fused with a Whiteheadian approach to *rhythm,* hence this paper's elaboration of a *rhythmic nootechnics.* At the end of §1, it will be discussed how noetic activity, or noesis, in Stiegler's reading, is an *intermittent* process: it occurs only intermittently and is conditioned upon certain intermittent practices and activities. This notion of intermittence provides therefore a segue into §2, where the notion of intermittence will be nuanced and buttressed through Whitehead's approach to *rhythm* as it pertains to the two levels of psychic individual and milieu. As well as being of relevance to educational philosophy and theory generally given his work on education (Allan, 2004; Caranfa, 2012), Whitehead has formed an increasingly regular reference point for Stiegler (2016, pp. 200; 218; 245; 2018a, pp. 40-41; 45; 56; 63). However, extensive engagement as to the relationship between their work is absent from the literature. As such, the deployment of Whitehead's work here will serve to elaborate and elucidate this relationship, but do so in such a way that Whitehead's work will allow this paper to address the implications that the questions of noetic life and noetic milieus raise today.

The third contribution is speculative, and will be concerned with addressing in more specific terms how this synthetic conceptual apparatus of *rhythmic nootechnics* can help us think about where we might take the future of the university in the service of those two responsibilities of educational institutions indicated in §1. I argue that *rhythmic nootechnics* provides an conceptual framework through which we can about the future pedagogies and institutional arrangements necessary for the transformation of our educational institutions in order to respond to our

contemporary challenges, foster noetic life and noetic milieus. As such, §3 of this paper will explore the potential of a *nootechnical university*: universities as knowledge co-operatives and as spaces of noetic experimentation attuned to the responsibilities between the generations and their rhythmic flows, as well as being founded on modes of remuneration and resource allocation for such noetic experimentation.

§1. The Noetic Soul & Nootechnics

Stiegler's reading of Aristotelian *nous* and the development of his notion of the noetic soul is central to how he conceives of new ways of imagining political and economic organisation generally and, central to this paper, the function of universities specifically. In the first volume of *The Automatic Society,* for example, Stiegler claims that our challenge today is to create new 'noetic circuits of transindividuation' (2016, p. 71) insofar as contemporary computational capital, and its conditions of both employment and education, are destructive of the activity of noesis (2016, p. 149). He further notes that education should be reconceived as pertaining to the production of *value* throughout life, and that such a conception would allow educational institutions to become the '*propaedeutic to a new intermittent status that opens rights to resource allocations according to these new intermittent activities'* (2016, p. 148). The key springboard questions for this section are thus that of what the meaning and function of the "noetic soul" and the related term "intermittence" are for Stiegler, and how this relates to the role and function of educational institutions on his account. In order to clarify this, we will first briefly turn to Stiegler's more general account of how psychic individuals constitute *meaning,* before turning to Aristotle and his reading of Aristotle more specifically. In this latter discussion, three key components will be highlighted: (i) Stiegler's re-reading of Aristotelian *nous* through his combined discussion of *nous* with *tekhnē* (nootechnics)*;* (ii) his highlighting of the spiritual and political dimensions of *nous;* (iii) the centrality of the notion of "intermittence" within this notion of nootechnics.

In *The Decadence of Industrial Democracies: Disbelief and Discredit, Volume I,* Stiegler discusses the question of labour in capitalism as it pertains to how psychic individuals relate to both their labour and their life, concerned both with what motivates psychic individuals to elevate themselves and what they are aiming at in the constitution of a meaningful life (2011, p. 85). For Stiegler, one of the destructive tendencies of capital is how questions of motivation and meaning are crushed through the rationalisation of all layers of existence such that the only *motive* and *meaning* is economic sustenance and consumption, whereby 'existence thereby becomes nothing more than the struggle for survival, reduced to the busyness of subsistence' (2011, p. 86). The rationalisation

of life is constituted by its reduction to subsistence and consumption, and crucially, its reduction to *calculability.*

What is lost in the reduction of life to calculability is precisely what Stiegler calls *singularity,* which is the potential for each psychic individual to cultivate their own absolutely singular motivation and meaning. Rationalised and calculable life is standardised and metrified, and thus tendencies towards standardisation and metrification are particularising and de-singularising (2011, p. 87). *Work* is reduced to *employment.* Motivation and meaning are constituted, for Stiegler, through *reason* (rather than rationalisation), 'if one understands by "reason" that which constitutes the motive to live of those souls that Aristotle called "noetic", and that he also qualified as "political"' (2011, p. 87). The question of motivation and meaning therefore, on Stiegler's account, passes through his reading of Aristotle. Educational institutions are social organisations in which the transmission and cultivation of the capacity for intellection and understanding is central (i.e., the transmission of noetic capacities) and are thus central to how psychic individuals relate to questions of motivation and meaning (2010, pp. 180-181). However, insofar as such institutions are increasingly themselves integrated into regimes of calculability in their operation and governance, they thereby participate in the de-singularisation of the lives of young minds, becoming factories of employment-training and the crushing of motivation and meaning for staff and students alike. Increasingly, educational institutions are sites through which education is reduced to *skill-acquisition* and *entrepreneurial training,* divorced from both noesis and the cultivation of singularity (Cunningham, 2017; Clark and Jackson, 2018; Heaney, 2015; Heaney and Mackenzie, 2017; Murillo, 2017).

In order to develop a clearer sense on the significance of the *noetic soul* as it pertains to questions of motivation, meaning, and the role of educational institutions, it will be useful for to now explicitly turn attention to Aristotle on this.

Nous (understanding), in Aristotle, is a capacity of the soul in its active movements of thought; or more generally, is the soul's potential to engage in the active perception of appearances, grasp intellectual objects, and make judgments (Aristotle, 2017, p. 57). The capacity of *nous* is to be distinguished from the more general capacity of perception, of the perceptual soul, which Aristotle ascribes to all animals; or more precisely, Aristotle defines animality primarily through this capacity and this soul (2017, p. 57). Whereas perception is activated by perceptible objects, *nous,* ideally, is self-activated (active understanding (*nous poiêtikos*), which itself is to be distinguished from passive understanding (*pathêtikos nous*) (2017, p. 157)). *Nous poiêtikos* pertains to, for example, the soul's capacity to *activate* knowledge which it has once understood in itself, as well as the activation of understanding when confronted with appearances.

In *De Anima,* Aristotle offers two analogies on, first, the characterisation of the soul and, second, on the noetic soul's process of active understanding. The former relates to the soul's bodily actualisation, where in a discussion of different philosophical accounts of the soul's relation to the body, he dismisses those which do not put the soul in some sort of constitutive or intimate relationship to *its* body (characterising and dismissing the Pythagorean account as one in which *any* soul could be put into *any* body). He analogises such positions to the claim that the art or craft of carpentry could be "put into" flutes, whereas, Aristotle claims 'in fact the craft use *its* instruments, and the soul *its* body' (2017, p. 13). The latter is in Aristotle's comparison of the understanding soul to the hand. When the noetic soul activates knowledge, he claims, the form of that knowledge is in the soul. The soul is the 'form of forms' (*eidos eidôn*) in the same way that the hand is the '*instrument of instruments*' (*organon organôn*) (2017, p. 58). The hand is also the instruments for instruments (*organon pro organôn*) insofar as it 'becomes a talon, claw, horn, spear, sword, and any other weapon or instrument' and 'it will be all these thanks to its ability to grasp and hold them all' (Aristotle, 2001, p. 99; Aristotle, 2017, p. 179). The unique organological capacity of the hand enables it to grasp, hold, and use other instruments in the same way that the unique noetic capacity of the understanding soul enables it to grasp, hold, use and know intelligible objects. Just as the hand has the capacity to become whatever instrument it holds, the noetic soul has the capacity to take the *form* of intelligible and perceptible objects (2017, p. 57).

For Stiegler, however, the noetic soul's processes of understanding must be placed in relationship to technics through a combined discussion of *noesis* and *tekhnē* (which is also the relationship between *the who* and *the what* as it pertains to the intellective and spiritual level). Drawing on Stiegler, we can say that the psychic individual's capacity to understand is a nootechnical capacity, insofar as:

1. It is always related to some *tekhnē* of understanding. Such technologies range from, for example, the disciplinary process through which the tongue, the larynx, and the jaw learn to produce speech and participate in *logos* (Stiegler, 2011, p. 149; Ross, 2009, p. 5), the ear to listen, the hand to write, the habituation of the body to particular gestures which themselves express knowledge (i.e. the embodied knowledge of manual work), to the learning of *forms of thinking* more generally. This is process of form-ation in the sense these different nootechnics pertain to different forms that the noetic soul (as *eidos eidôn*) can take, and which thereby bears a reciprocal relation with the *technique* through which it subsequently grasps, attends to, and understands its immediate objects. The noetic soul's understanding is in this sense *technical* and in *relation* to particular forms of thinking and

embodied knowledge acquired through attentional discipline and practice. The psychic individual's capacity to understand is a nootechnical capacity here in the sense that it is through the materialised technical training on the body-soul and the attendant forming of *techniques* of thought that understanding is made possible.

2. The learning of such capacities is conditioned and limited by *technics,* here in the sense of the *already-there* of inorganic memory supports or tertiary retentions (books, buildings, etc.) comprising the milieu (1998, p. 152; Kouppanou, 2015, p. 1113-1116). For the purposes of this paper, my emphasis here is on the fact that the acquisition of noetic capacities – i.e. the capacity to understand, conceive, think, but also manual-embodied knowledge through gesture and movement and not just, say, abstract thought (Stiegler, 2016, p. 202) – takes place in specific technical environments in relation to specific techniques and technical objects. The technical environment, compensating for the human's retentional finitude, is also that which enables generational transmission, but which also requires us to consider the relation between forms of thought and technical objects. This is why, for example, Anaïs Nony considers nootechnics specifically from the perspective of contemporary digital technology, arguing for a nootechnics of the digital towards forming new forms of cultural and technical agency in relation to contemporary technical objects (2017, p. 142). Here, the psychic individual's capacity to understand is a nootechnical capacity in the sense that the capacity of *nous* is co-constituted *transductively* with technics, in which 'technics and the brain form a transductive system' (Stiegler, 2010, p. 97) (transductive in the sense described by Gilbert Simondon (2017, p. 124; Hui, 2016, p. 191)).

Nootechnics, then, conceptualises the (transductive) relations of *nous* and *tekhnē,* of the indissociability of the noetic soul from specific techniques of thought and from technics. Movements of what I will in this paper call *nootechnical evolution* are processes which Stiegler explains in terms of Derridean *différance* (Derrida, 1982, pp. 1-28), as the work of *différance* is also that of noesis (Stiegler, 2016, p. 193). Each technique of thought will always be some engagement with *transmitted memory,* and to this extent engages in the process of retention. Additionally, the actual practice of each technique responds to the moving conditions of the present, conditions which provide more or less of an opportunity for each noetic soul to express these techniques differently and anew, forming new protentions and producing new technical objects for future generations (what Stiegler calls technical *exteriorisation*). This is always potentially the participation in a process of nootechnical evolution when it involves that soul's singularisation, or what Stiegler, drawing on Simondon, sometimes calls its individuation (2016, p. 129). Such singularisation, as protentional,

participates therefore in the conditions for the next repetition of generational transmission in what forms a continual *rhythm of nootechnical evolution* at the level of the milieu*:* the continuous process through which thought-forms and thought-techniques are retained, protentionally transmitted, and transformed through the generations. Educational institutions are indissociable from this responsibility, whether or not it is fulfilled.

The noetic soul, then, is what must be cared for by the milieu in order for that psychic individual's noetic potentiality to be nootechnically actualised. Additionally, psychic individuals must themselves care for the milieu in order to create the conditions for continual nootechnical evolution and individuation. The former pertains to the noetic soul's intellective and spiritual potentials and the techniques through which the psychic individual establishes (and continually re-establishes) motivation, meaning, or what Stiegler terms *consistence* (2016, p. 136). These techniques are themselves established through techniques pedagogically and institutionally transmitted. The latter pertains to the milieu's transgenerational processes of retention and protention, which are themselves established through how each generation takes responsibility (or does not) for the task of nootechnical evolution. The circuits established between psychic individuals through such institutions of retention and protention are circuits of *transindividuation* (or the co-constitution of the *I* and the *We*); and the 'noetic circuits of transindividuation' (2016, p. 71) mentioned at the beginning of §1 are ones which fulfil this noetic and transgenerational responsibility.

It remains to be clarified, however, in what sense for Stiegler nootechnics pertains to both *spiritual* and *political* life, rather than simply intellective techniques and practices. This is important to clarify as any potential *nootechnical university* would thus be implicated in these spiritual and political dimensions. With regards to spirit, and beyond bare etymological connections (through which *nous* was translated into Latin as *intellectus* and as *spiritus* (due to which Stiegler notes that the 'noetic soul is intellective and spiritual' (2016, p. 22)), Stiegler's discussion of the noetic soul often expressly opens onto the spiritual dimension in two key ways:

1. Insofar as spiritual practices are tied to dedication and attention formation. Stiegler develops this sense through his discussion of how the psychic individual relates to objects of desire (including the desire for knowledge and understanding). When this takes the form of a *protentional investment,* requiring attentional discipline and fidelity to that object (2016, p. 21), we can say that, for Stiegler, such an object is transformed into a spiritual object (this object is *noeticised*). *Noeticisation* is the development of an *attachment*, involving a 'passage to the noetic plane' (2010, p. 168). This attachment is formed through *practices* and *care* – and such practices themselves are comprised of their own *tekhnē* – which are integrated

into the life of the psychic individual. Whether we take the examples of a meditation practice or of an educational practice, both can be termed spiritual for Stiegler in the sense that they require such investment, attentional discipline, practice, and fidelity. The process of noeticisation provides reason for and consistency to (that is, meaning (*sens*) (2011, p. 41)) noetic life in general for the psychic individual (2018a, p. 37). Such investment is by definition *not* an instrumental or calculable commitment insofar as what is calculable is finite (2016, pp. 202-203; 2014, p. 59), whereas the process through which objects of desire are noeticised for Stiegler involves the *infinitisation* of that object. The attachment to the spiritual object of care is an attachment Stiegler connects with *philia,* unconditionality (2010, pp. 168-169), and bound up with sacrifice (2018a, p. 60).

2. Insofar as the psychic individual's noetic individuation is also transindividuation. This pertains to the capacity of each psychic individual to individuate themselves from pre-individual funds and therefore participate in the retentional-protentional process of nootechnical evolution. Such funds are those collective secondary retentions extracted from tertiary retentions, themselves technologies of attention formation (such as reading or *hypomnēmata* (Van Camp, 2009, p. 131)). All noetic practices and expressions are thus always transindividual (2018a, p. 34; Abbinnett, 2015, pp. 72-73): no psychic individual noetically individuates alone, and in this sense the psychic individual who noetically exteriorises transindividually participates in the process of nootechnical evolution. This is to restate Stiegler's entanglement of psycho-somatic organs, artificial/technical organs, and social organisations (2018a, p. 55) in generational circuits of transindividuation. Whether, to return to the examples, it is psychic individual engaged in meditative practice or in educational development, they are engaging in a transindividual process alongside other psychic individuals (such as the pedagogical relation with a teacher), social organisations (within an institutional context) and technical organs (involving processes of reading, writing, and practice). Such relations enable *noesis* whenever they attune themselves to or care for the pharmacological nature of all *tekhnē* (namely, that all technics can be both poisonous (anti-noetic) or curative (noetic)).

The identification of these two spiritual dimensions of noetic activity is indissociable from the political in Stiegler. As Ben Turner notes, in Stiegler this takes the form of a *noopolitics* in which modes of life-knowledge (*savoir-faire, savoir-vivre, savoir conceptualiser* (Stiegler, 2018a, p. 51)) become the object of a politics of adoption which seeks to create the conditions for movements of *différance* (Turner, 2016, p. 193) or what we are calling nootechnical evolution. Such movements are to be

distinguished from the contemporary psychopolitics of computational capital, which incentivises adaptation and, increasingly, the destruction or short-circuiting of attention, desire, and transindividuation (Moore, 2018, p. 204): such incentives promote non-noetic life. Stiegler often discusses the spiritual dimensions alongside politics, or more precisely, political life is positioned as a modality of noetic life. For example, Stiegler centralises the importance of political practices and collective ritual, such as deliberation or debate, which are situated as pharmacological therapeutics in the lineage of magic and religion (2018a, p. 34). Political practices and institutions necessitate dedication, protention (2011, p. 42), attention formation, and are comprised in processes of transindividuation. For example, in the entanglement of politics with nootechnologies – such as the key example of *writing* – wherein writing is the condition of both the "republic of letters" constitutive of the self-image of Enlightenment thinkers, as well as of all care (or government) of self and other generally (2010, p. 17, 26; 2016, p. 57; Foucault, 2005, pp. 355-370). Political society, for Stiegler, is constituted on the possibility on the elaborative nootechnical critique of tradition. That is, on the possibility of the sacred as much as the profane (2018b, p. 36). In Stiegler the *political* is in this sense wholly inseparable from the spiritual: his 'noetic politics' (2018a, p. 51) is a politics of spirit and a spiritual politics.

These two levels of organological analysis comprising the noeticity of the life of the psychic individual and the noeticity of the milieu thus comprise key elements in what for Stiegler is an organological challenge which we may confront, adopt responsibility for (rather than an adapt to), and thus transform which, in the terms of this paper, would constitute an extension of nootechnical evolution. The purpose of educational institutions, drawing on Stiegler, is therefore to adopt the responsibility for these two levels. First, to create the spacetime for and form relationships conducive to each psychic individuals' noetic development. As has already been hinted at above, this is increasingly a responsibility the university is *failing* to adopt insofar as the space and relations constitutive of the contemporary university are ones of professionalising skill-transference and the production of worker-consumers, stripping them of their noetic potential. Second, to make the university *itself* a social organisation which works in the service of nootechnical evolution at the level of the milieu. Insofar as the university itself, as was also hinted above, is increasingly totally integrated into short-termist regimes of calculability (in the governance of research and teaching), in-part through ossified executive management structures, the contemporary university's organisation as such is anti-noetic, working in the service of a '*generalized stupidity*' (2015, p. 45) and the '*dis-integration* of knowledge' (2015, p. 168).

For Stiegler, however, and returning again to his reading of Aristotle's concept of the noetic soul, it is important to note that the actualisation of this potential for noeticity is an

actualisation that occurs in fact only *intermittently*. Intermittence can be read in relation to the two levels under discussion. First, at the level of the psychic individual, the noetic soul is noetic only intermittently insofar as noeticity is a potential of the noetic soul which requires work (care, practice, discipline) in order to be actualised through interiorisation and exteriorisation. The passage to the noetic can thus be called extraordinary due to its intermittence (2011, p. 134). This also means that *not* passing to the noetic is an ever-present possibility and common actuality. Noeticity's non-fulfillment is precisely what constitutes *proletarianisation* for Stiegler (2010, pp. 132-135; 2013, pp. 1-5). Second, at the level of political and institutional life, there is an intermittent noeticity of the *milieu* related more broadly to the function of intermittence as the foundation for the 'noetic dimension of any society' (2016, p. 75). Here, Stiegler is referring to how the social organisation of temporality (as through calendarities) is established through regularities as much as by intermittent key-points, festivals, sacred days, educational rites of passage, and so forth, composing processes of psychic and collective individuation (2016, p. 74). Such contrasting of regularities with intermittence function therapeutically in order to foster the continual conditions for noetic singularisation, 'noodiversity' (2018a, p. 78), and continual nootechnical evolution.

It is at this point, however, where the introduction of Whitehead's notion of *rhythm* can be of service in thinking about the implications of this with regards to the transformations necessary in the university at the two levels under discussion. As well as enabling some insight into the underdiscussed relationship between Whitehead and Stiegler, Whitehead's approach to rhythm, I argue, enriches and deepens this notion of noetic intermittence insofar as intermittence itself emerges only through rhythm.

§2. Rhythmic Intermittence and The Way of Rhythm

I do not have sufficient scope within this paper to expound a general concept of rhythm nor to explicate all of Whitehead's. There are three main discussions of rhythm in his work which are important here. First, there is his conceptualisation of rhythm alongside *reason* and *life* in *The Function of Reason;* second and third, there are his two essays on rhythm in education: "The Rhythm of Education" and "The Rhythmic Claims of Freedom and Discipline."

Whitehead's conceptualisation of the rhythm of education begins, as he notes, from the truism that different subjects ought to be studied at different times in a student's life. This is integrated into a rhythmic theory of noetic development – which he connects with 'interior spiritual development' (1967a, p. 27, Caranfa, 2012) – in which life is composed of periodicities at the level of the everyday (work, play, sleep), the seasonal, the annual, etc., in which the term *rhythm*

is chosen in the 'conveyance of difference within a framework of repetition' (1967a, p. 17). The enemy of Whiteheadian education is inert knowledge, i.e., when education is not integrated with spirit, reduced the status of an instrument (*tekhnē* without *nous*). Inert knowledge is exhibitive of what he calls 'spiritual blindness' (1967a, p. 41), and inert ideas are precisely those which are not integrated into the rhythms of life, a life of blindness being life without novelty and rhythm (1929, p. 16). Whitehead offers a three-fold distinction in his rhythmic theory of noetic development at the level of the psychic individual (1967a, pp. 17-19) comprising:

1. *The Stage of Romance:* a period lacking systematisation but with wonder, excitement, and exploration – a stage of noetic *pollination* (Stiegler, 2016, pp. 242-245) – and in which ideas and facts are taught and apprehended broadly and generally;
2. *The Stage of Precision:* a period profiting from romantic fermentation, which is comprised of discipline, procedure, and systematisation, deepening and clarifying what had been evoked as possible in the stage of romance;
3. *The Stage of Generality:* a period which combines romanticism with classification and technique, and ultimately with self-discipline.

These three "stages" are not simply to be conceived of as phases of linear development which reach their end-point or *telos* in adulthood, nor should the distinctions between the stages be read as sharp distinctions: their borders are porous. While Whitehead does associate adolescence with the stage of romance, adulthood and university education with the stage of generality, and argues that pedagogical approaches ought to be attuned to the 'rhythmic pulses of life' (1967a, p. 25) comprising this development from infancy to adulthood, this process is *constitutively* incomplete. Noetic development should consist in a continual repetition of such cycles. The repetition of cycles with difference, i.e. with novelty, comprises rhythm. It is in this way that we can begin to think of a *rhythmic nootechnics,* clarifying further the intermittent character of noetic development, but an intermittence emergent *only* from a rhythmic process. In other words, its intermittence functions as part of a rhythm of noetic development.

In *The Function of Reason,* Whitehead defines and naturalises reason as both the 'organ of emphasis upon novelty' (1929, p. 15) and as that which determines the 'direction of attack on the environment' (1929, p. 5) in which the human's modificatory relationship to the environment (through technical exteriorisation) is the most 'prominent fact in his existence' (ibid.). Consolidating this, Whitehead considers the function of reason as primarily that of promoting of an art, method, or what we would call a nootechnics, of life. He terms the highest of these '*The*

Way of Rhythm' (1929, p. 16) (and which Stiegler draws from in support of his formulation of neganthropology (2018a, pp. 56-57)). *The Way of Rhythm* is constituted by both repetition and difference, is both sustainable and enduring but also creative, open to novelty, transformation, its evolution, and the emergence of value or meaning (Whitehead, 1967b, pp. 104-108).

Whitehead attempts to combine discipline (order) and freedom (novelty) in his spiritual approach to noetic pedagogy and noetic life. It is spiritual precisely (prefiguring Stiegler) insofar as it *not* an instrumental approach to education or life. Instrumental approaches to education – today exhibited, for example, through the liquid criteria of "excellence" and "employability" in the UK – lack precisely the spiritual noeticisation that Whitehead, for his part, describes in terms of "wisdom." Wisdom is, for Whitehead, nootechnical, it concerns 'the handling of knowledge' and is identified with freedom (1967a, p. 30). Freedom only emerges in relation to discipline, and discipline to freedom, through their rhythmic interplay (1967a, pp. 30-31). There is the relatively undisciplined freedom of the stage of romance, the disciplined unfreedom of the stage of precision, and their combination in the stage of generality, which is a new freedom made possible by the discipline of learning and effort, i.e., self-discipline (1967a, p. 35).

The intermittent possibility of noeticity itself in the reading being developed here emerges through rhythmic nootechnics (the ways in which nootechnical transmission is integrated into the rhythms of everyday life of the psychic individual). The purpose of education becomes, therefore, the transmission of nootechnics which can lead to the student becoming self-disciplined and inventing their own singular way of rhythm. This rhythm is spiritualised, further, insofar as Whitehead calls the essence of education as religious in the sense that its task is a transmission of a combination of reverence for and duty in life, and the function of the university in the milieu is that it 'preserves the connection between knowledge and the zest of life, by uniting the young and the old in the imaginative consideration of learning' (1967a, p. 93). Without preserving this connection, the university has 'no reason for existence' (ibid.). Intermittent noeticity, in other words, I am reading in terms of *rhythmic noeticity,* and therefore subject to a pedagogical and political rhythmic nootechnics for those invested in the future of educational institutions to work together towards in response to the two responsibilities of educational institutions discussed in §1.

At the level of the the *noeticity* of the life of the *psychic individual,* we can speak of a *rhythmic nootechnics* pertaining to pedagogical experience in educational institutions when such experience is integrated into a rhythm for the life of the psychic individual, in such a way that cares for the conditions for their own adoption of a singular *Way of Rhythm* and participation in nootechnical evolution. At the level of the *noeticity* of the *milieu,* we can speak of a *rhythmic nootechnics* whenever each generation rhythmically adopts the responsibility for nootechnical evolution, and creates

milieus which themselves care for and keep open the possibilities of nootechnical evolution. A rhythmic nootechnics therefore addresses those two levels of organological analysis (and two attached responsibilities) that we have been concerned with in this paper as two rhythmic levels and as two interrelated scales of rhythm: the rhythms of life for the psychic individual at the level of everyday life, with regards their noetic potential; and the generational rhythms which constitute processes of nootechnical evolution. Given these two rhythmic levels, in the final section of this paper the question of the contemporary university will be turned to, and how this notion of *rhythmic nootechnics* would pertain to how we might adopt our rhythmic and generational responsibilities to create transitional spaces for nootechnical evolution, towards noetic milieus and noetic life.

§3. Rhythmic Nootechnics and the Nootechnical University

In *Automatic Society Volume One: The Future of Work,* as we met at the beginning of §1 when the concepts of "noetic soul" and "intermittence" were introduced, Stiegler discusses what for him is the upheaval necessary in order to invent new organological conditions which adopt the challenges posed by digital technics, contemporary capitalism, and automation. Confronting these challenge, specifically in the case of the contemporary university, also means to confront those two responsibilities met at the end of §1. How to, firstly, create the space and form relationships conducive to each psychic individuals' noetic development and cultivation of their own singular way of rhythm? Secondly, how to make the university *itself* a social organisation which works in the service of nootechnical evolution? Or, in short, what would a *nootechnical university* look like?

This, for Stiegler, concerns the creation of new social networks and new 'knowledge cooperatives' (2016, p. 134) through which extant organological conditions can be transformed into ones which work *in the service of* nootechnical evolution for the future generations:

> Education must itself become the point of entry into a production space for new practical and social value "throughout life". *Conceiving education in this new way should become the propadeutic to a new intermittent status that opens rights to resource allocations according to these new intermittent activities.* (2016, p. 148)

If education is to become such a "point of entry," this must pass through the invention of new institutional conditions which transform the pedagogical experience of the university, today increasingly dominated by professionalising skill transference, employment-training, consumer-student experience frameworks, and monitoring processes through calculable assessment and accreditation (exhibitive of an 'anti-noetic stupidity' (2016, p. 205)). To the extent that the contemporary university is concerned with this, it has, on Whitehead's criteria, 'no reason for existence' (1967a, p. 93). The creation of the nootechnical university on this schema is the creation

of new co-operative universities formulated around the nootechnical concerns of intellective, spiritual, and political education, which for Stiegler is a question of 'Bildung *in the epoch of digital tertiary retentions*' (2016, p. 169). Digital technics continue to transform both rhythmic levels, having transformed the conditions of knowledge transmission and exchange, but also posing pedagogical challenges insofar as digital devices tend to de-noeticise (proletarianise) attentional forms insofar as they tend to *block* intermittence through the colonisation of attention (Stiegler, 2016, pp. 188-189). There is thus a need for *new* organological conditions in the service of noetic pedagogies and noetic institutions through projects in the study of digital technics: the creation of new forms of social networks and '*hermeneutic communities*' (2016, p. 148) constituting a primary challenge moving towards a nootechnical university. This means, here drawing again on Whitehead, that in the university the pedagogical task is to work on *both* the abstract forms of knowledge, alongside the kindling of elements of The Stage of Romance pertaining to students' direct experience of the world (Woodhouse, 1999, p. 102), inventing *ways of life* and singular *Ways of Rhythm* in order that psychic individuals can navigate the challenges of the epoch. If these are to be invented, the formation and elaboration of curricula and pedagogical passageways through the university in nootechnical universities must take the form of an exchange through new noetic circuits of transindividuation, evolved 'by its own staff' (Whitehead, 1967a, p. 13) (with an expanded notion of "staff" insofar as these are knowledge *cooperatives*). Rather, in other words, than the transmission of *skills* and the production of marketable (employable) graduates in a passageway which increasingly requires compulsory indebtification, the nootechnical university would concern itself with the co-elaboration of noetic passageways so that each psychic individual can form their own singular way of rhythm. What is required, further, is the co-operative invention of new modes of remuneration and resource allocation so that each psychic individual *by right* can participate in the noetic experimentation and exploration that such an institution would support.

Concerning the *noeticity* of the *milieu*, the task of a nootechnical university would therefore be to exit the consumerist model and attached ossified executive structures of the contemporary university entirely – which are short-termist in nature and divorced from the responsibilities between the generations – politicising the university's relationship to the milieu through new political, economic, and epistemological experiments in the service of creating the conditions for nootechnical evolution. In such a way, universities could become sites of noetic pollination, experimentation, and adventure. Reconceiving and experimenting with the university as *open knowledge co-operatives* would constitute a step in such a movement in this direction, founded in-part on a 'contributory income for intermittence' (2016, p. 148) for *all* those who make contributions, and on '*contributory research*' (2016, p. 181) itself insofar as these experiments themselves will

themselves be open to future research and critique as the rhythm of generational responsibility is transferred. To put this in different terms: in order for the university to become a social organisation which works in the service of nootechnical evolution, it must itself politically organise and engage in a co-operative *noopolitics* "inside" and "outside" the institution for such a purpose. Educational institutions, as systems of metacare, must in this sense involve the 'taking of noetic action that is *politically and economically organized*' (2010, p. 179).

§4. Conclusion

The main aims of this paper, to reiterate, are three-fold. First, to discuss Stiegler's work as it pertains to educational practice and institutional organisation, paying specific attention to the importance of his reading of Aristotle's conception of the *noetic soul*, through which intellectual, spiritual, and political life intersect. Second, to explore the relationship between Stiegler and Whitehead, here effectuated through synthesising Whiteheadian *rhythm* with Stieglerian *nootechnics*. Third, to *protentionally* think about some of the implications of this reading in exploring the possibility of a *nootechnical university* attuned to the responsibilities between the generations. The specific example discussed here was the institutional reorganisation of the university as open knowledge co-operatives, founded on contributory incomes and contributory research, a key area of which will be research into how to transform our relationship with digital technology, in the service of future noetic milieus, noetic life, and nootechnical evolution.

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