

Grace de Laguna's analytic and speculative philosophy

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Abstract

This paper introduces the philosophy of Grace Andrus de Laguna in order to renew interest in it. I show that, in the 1910s and 1920s, she develops ideas and arguments that are also found playing key roles in the development of analytic philosophy decades later. Further, I describe her sympathetic, but acute, criticism of pragmatism and Heideggerian ontology, and situate her work in the tradition of American, speculative philosophy. Before 1920, we will see, de Laguna appeals to multiple realizability to undermine reductionism in science, to support perspectival, scientific realism and, with help from a private language argument, to favour the view that mental states are classified by behavioural, teleological roles over what came to be called 'type physicalism'. Her view of speech, mostly developed in the 1920s, tells us that its primary role is coordinating group behaviour rather than expressing thoughts. Belief is understood in terms of its causal role, including its causal relations to other kinds of mental states, when coordinating group behaviour. Thought is similarly understood. In developing her theory of mind, de Laguna rejects the pragmatist claims that belief can be reduced to dispositions to behaviour and that thought's function is to address specific, rather than general, problems. She also favours meaning holism and rejects the analytic-synthetic distinction. In later work, de Laguna argues that individuals' activity of self-maintenance brings universals, conceived of as irreducible potentialities, into being and makes them increasingly determinate. Further, she identifies the existence of all individuals with forms of self-maintenance and takes the existence of people to include maintenance of the cultural world. Such a unified treatment of existence, she holds, permits making its evolution intelligible. Heidegger's view of being is rejected for not permitting this. All de Laguna's work, we will see, fits a vision of philosophy as the systematic, imaginative and naturalistic examination of being as well as a source of criticism of science.

1. Introduction

Grace Andrus de Laguna (1878-1978) was a prominent philosopher during much of the first half of the twentieth century, though her work has been forgotten.¹ I aim to present some of her main ideas and arguments, and to relate these to influential work in analytic philosophy, pragmatism and continental philosophy. I pay only limited attention to her work's historical context. We will see that many of the theses and arguments that she put forward in the early decades of the twentieth century are also found playing key roles in the post-1950 development of analytic philosophy, that she provided sympathetic, but acute, criticism of pragmatism and Heideggerian ontology, and that her work belonged to the speculative philosophical tradition in America. My motivation for drawing attention to de Laguna's work includes its intrinsic merits and improving our understanding of the development of philosophy during the first half of the twentieth century.

2. De Laguna's realist perspectivism about science

De Laguna was a proponent of realist perspectivism, a view that is neatly captured in her 1934 paper, 'Appearance and orientation': "the percipient—and in an extended sense, the knower—apprehends things from a particular standpoint" but nevertheless does apprehend things as they really are (1934, pp. 72 & 77). She presents her perspectivism about scientific knowledge, which is my focus here, primarily in two 1917 papers, namely 'Phenomena and their determination' (*PD*) and 'The limits of the physical' (*LP*). Science reveals a variety of systems of patterns, including physical, biological, psychological and historical ones. Each of these systems includes at least some kinds of individuals, and patterns involving these kinds, that are key to understanding the system and are not to be found in other systems. This implies that, for any two of the systems, if some kind from any one of the two is located at a variety of space-time loci, there need be no corresponding kind from

¹ Peter Olen's, 'Consequences of Behaviorism: Sellars and de Laguna on Explanation' (2017) and my, 'The de Lagunas' *Dogmatism and Evolution*, overcoming modern philosophy and making post-Quinean analytic philosophy' (forthcoming) are the only recent papers on de Laguna that I am aware of.

the other system at all those loci. Nor is there any prospect of explaining the patterns of one system solely with those of another. As de Laguna summarises it,

[t]he world as it exists for science is a vast network of patterns, the different systems of which overlap and mingle, but which we cannot resolve into a single system of design. The units which we find to be the key of one pattern turn out to be misleading clues when we try to apply them elsewhere (1917a, p. 625).

Indeed, we will see that the historical and psychological systems supposedly include individuals and events that cannot be identified with anything physical.

Nevertheless, de Laguna's perspectivism tells us that the systems of individuals discerned by different sciences are intimately related. The same kinds and individuals may, to begin with, feature in multiple systems (*ibid.*, p. 625). Thus, in the next section, we will see de Laguna arguing that the human central nervous system is a physiological and a sociological kind. So too, de Laguna's perspectivism tells us that all nonphysical kinds and individuals resolve into—or, as more recent work might put it, are realised by—physical phenomena and thus can be redescribed using the terms of physics, even if, from the resulting perspective, at least some kinds and individuals will turn out to be fictitious (*ibid.*, p. 630; 1917b, pp. 182-183). What the relationships between the patterns, kinds and individuals of different fields are, e.g., whether psychological kinds are physical kinds, is an empirical matter (1917a, pp. 662-663; 1917b, pp. 182-183).

LP and *PD* examine the relations between kinds, and between individuals, from a variety of special sciences, including between kinds from history and each of psychology, physiology, biology and physics. The papers use their results about the cases of numerical distinctness they uncover in order to target specific anti-perspectivist positions and, in doing so, to support aspects of perspectivism. The distinctness of a kind in one field of science from any kind found in another is supported by appealing to cases of what we would call 'multiple realizability'. In the cases appealed to, instances of a kind of event or state from field of science *A* cannot be resolved into instances of

any single kind of event or state from field of science *B*. Instead, instances of the kind studied by *A* are only resolvable into—in the more recent terminology, are only realised by—constituents that, from *B*'s perspective, are unrelated to each other.² Assume we have such an instance of a kind of event that is studied by *A*. According to de Laguna, the relevant constituent events that are studied by *B* are not classifiable by it as belonging to a single kind. From this she concludes that *A* has at least some principles of classification that classify in ways that are out of reach of *B*, and thus that there are some kinds recognised by *A* that cannot be identified with any that might be recognised by *B*.

LP, for example, appeals to the Democratic victory of 1916 in order to support the view that historical kinds are not physical kinds. She observes that

[t]he particular event which occurred last November is resolvable into a vast mass of occurrences, such as the going to the respective polls of the voters all over the country, the marking of ballots, the subsequent fall of the ballots into the boxes, etc. And each of these occurrences may be similarly broken up, until, as an ideal limit, we may conceive that whole group of events which constituted the election and the Democratic victory as a multitude of redistributions of mass and transformations of energy. Every detail is accounted for, nothing is omitted. In a like manner we may conceive other events of the same class, Democratic victories of former years, described in detail as groups of physical occurrences.

But if we now proceed to collate and compare these descriptions of the particular cases, in order to formulate a general description, we find that they present no characteristic identity. If they were not already given as belonging to the same class, we should never be led by our physical analysis to class them together. But this means that the phenomenon 'Democratic victory' is not a physical event (1917b, pp. 179-180).

² Recent, standard candidate cases of multiple realizability are cases in which a kind is supposed to be realized by a variety of other kinds rather than by disunited arrangements of constituents. But, current conceptions of multiple realizability permit disunited realisation (see, e.g., Gillett 2003, p. 594). Further, the realisers we will consider in de Laguna's discussion of the mind-body problem are kinds.

So, if physics considers the physical realisers of multiple Democratic victories, it will not be able to find that these realisers are of a common kind. But if physics cannot, in principle, even recognise Democratic victories as a kind, such victories are not intelligibly thought of as a physical kind in the first place (*ibid.*, p. 178).

LP and *DP* argue that individuals from one scientific domain are not to be identified with any individuals in another domain with the help of the idea that, if a science is able to identify a collection of items as an individual, then the science will possess principles of individuation and classification for similar collections and thus will systematically relate the collection to other collections it recognises (1917a, p. 632; 1917b, p. 181). If an event involving a single individual from *A* is resolved into a collection of events studied by *B* and that collection is not related in a systematic way by *B* to other collections of events it recognises, then *B* does not have a principle of individuation that relates the collection to others. Thus, the collection is not a real phenomenon from the perspective of *B*. *LP* appeals, once again, to the Democratic victory of 1916:

[t]he Democratic victory of last November is resolvable, we said, into a multitude of physical occurrences. But when so resolved, it has lost all claim to be considered as a single event. It is not even a complex of physical occurrences, for the physical occurrences which constitute it have no physical connection with each other except via the whole universe. From the standpoint of physical science the selection of the scattered occurrences which constitute this event is perfectly arbitrary. It would be just as reasonable to group together the falling of snowflakes over the mound which marks Scott's grave in the Antarctic, the spring of a tiger in the jungles of Africa, and the purchase of a set of furs by the czarina of Russia, and call them an event (*ibid.*, p. 181).

The Democratic victory is thus not only no physical kind, but no physical event at all.

PD appeals to specific cases of multiple realizability, and to specific cases in which individuals from one system are not recognised by another, primarily to object to forms of atomism. One

targeted form of atomism is psychological atomism, that is, the view that all the objects of sense perception are analysable into groups of sense data and relations between sense data. *PD* notes that physical kinds such as the yearly coming of winter do not correlate with similar groups of sense data; subjective experience is too variable for this. Thus, the coming of winter and other physical events are not psychological kinds. This also means, since physical laws relate physical kinds, that physical laws cannot be analysed in terms of relations between groups of sense data (1917a, pp. 631-632).

LP primarily aims to criticise views according to which all things are ultimately physical or are ultimately explicable in physical terms. *LP* also aims to undermine a motivation for such views.

According to de Laguna, the temptation to think that all phenomena can be explained in physical terms is driven by an induction. Failed past attempts to posit limits to physical explanation have led many to conclude that whatever exists or occurs anywhere falls under, and thus can be explained by, physical laws (1917b, pp. 177-178). But what events such as the Democratic victory of 1916 illustrate is that, when non-physical phenomena are resolved into physical ones, the results need not be recognisable by physics as belonging to any kind or even as being individuals. There is thus no prospect that these phenomena might be subject to physical laws, or might be explained by physics (*ibid.*, pp. 179-181). Further, once we realise that physics describes phenomena from a specific perspective, that is, under the assumption of certain forms of classification and individuation, we will no longer be tempted to think that physical phenomena explain everything, or that all phenomena are ultimately physical (*ibid.*, pp. 182-183).

De Laguna's perspectivism is akin to the analysis of experience offered (Thilly 1925) by her Hegelian teacher, James Edwin Creighton. So too, her perspectivism resembles the objective relativism that begins (Murphy 1927) to be clear in the work of Alfred N. Whitehead and John Dewey after the publication of *PD* and *LP*. It would be interesting to compare her views to these others. Here, however, I focus on the implications of her arguments for the forms of scientific reductionism that came to dominate analytic philosophy of science in the twentieth century. Initially, these forms

of reductionism were dominated by logical positivist positions such as the view that all empirical statements can be translated into a single, universal language, with physical and phenomenological languages being offered as candidate universal languages (Neurath 1931; Carnap 1934). Later influential forms of reductionism within analytic philosophy identify reduction with deduction or explanation. For example, Ernest Nagel (1961) identified reduction with deduction and held that science should aim to deduce all natural science from a single theory. De Laguna's perspectivism is an alternative to such reductionist ambitions, one according to which these ambitions rest on a failure to realise the limitations of the forms of classification and individuation, and by implication the forms of explanation, available to special sciences. De Laguna's arguments against atomism and reductivism, further, are acute. The challenges posed by multiple realizability are among the main challenges posed to reductivist projects in the philosophy of science, the philosophy of mind and other fields of philosophy, though recent historiography (e.g., Ney 2008) has it that the use of multiple realizability to challenge reductivism only emerged in the late 1960s and early 1970s, with the work of Hilary Putnam (1967) and Jerry Fodor (1974). Interestingly, however, even this work from the 1960s and 1970s fails fully to address de Laguna's appeal to individuation. Fodor, for example, appeals to multiple realizability in order to argue that we cannot expect each natural kind characterised in the special sciences to turn out to be a physical kind (*ibid.*, pp. 102-106). He, however, insists that each token event is a token physical one (*ibid.*, pp. 107-110). De Laguna's appeal to multiple realizability is similar to Fodor's, as is her conclusion about natural kinds, but her appeal to individuation suggests that some events are not physical ones.

3. Dissolving the mind-body problem

De Laguna's 1918 paper, 'The empirical correlation of mental and bodily phenomena' (*EC*) deploys considerations similar to those of *DP* and *LP* in order to dissolve the mind-body problem. According to *EC*, mental phenomena and those of the central nervous system are to be individuated and

classified by their roles in guiding behaviour in the physical, and in some cases even the social, environment. The two classes of phenomena thus turn out to be part of the same order of nature and their interrelations are, accordingly, explicable. This, further, suggests that the mind-body problem is based on a mistake. The problem arises, according to de Laguna, because phenomena of the central nervous system are assumed to be individuated and classified in a way that is entirely different from the way mental phenomena are individuated and classified. This assumption makes the interrelations between nervous and mental phenomena mysterious (1918a, pp. 535-536).

EC offers a general argument for thinking that the central nervous system and its subsystems are to be individuated and classified in terms of their functions in controlling behaviour. According to this argument, the nervous system is not primarily a physiological organ, that is, its primary function is not that of maintaining life. Its primary function, rather, is “the adjustment of the behavior of the individual as a whole to the outer world of goods and dangers which constitutes his environment” (1918a, p. 536). Thus, the phenomena of the nervous system can only be properly understood when they are classified in terms of their function in adapting behaviour to external circumstances, including, in the case of humans, social circumstances. De Laguna illustrates this claim with an example provided by John Watson. She writes, reflecting on Watson’s observation that some mental disorders cannot be ascribed to physiological problems within the cortex, that

[i]f Professor Watson is right, it is evident—though he himself apparently does not draw the conclusion—that normal and abnormal functioning of the cerebral cortex may be distinguished, not on the basis of any determinable physiological differences, but by the relative appropriateness of the cerebrally controlled behavior to environmental—say even social—conditions (1918a, p. 536).

EC further supports its claim about the individuation and classification of the actions of the central nervous system by examining the classification of such actions when they relate to emotions—fear is her example here—and to perception. Research, we are told, has not located fear

“and other emotions in the cortex or in the lower centers” (*ibid.*, p. 537). Indeed, the indefinitely varied causes of, and responses to, fear in humans and other species means it must be connected to “considerable diversity of nervous activity”, so that similarity of physiological characteristics is not what unifies cases of fear (*ibid.*, p. 537). At the same time, fear responses are classified as such because of their role in the economy of life. Similarly, “it is the identity of the part played in this economy by the differing cortical and sub-cortical processes exciting these responses that determines the identity of the correlated conscious experience” (*ibid.*, p. 538). In other terms, cortical processes and sub-cortical processes with the appropriate roles are thereby fear processes. Even if a fear centre were discovered in the central nervous system, it would be identified as such because of its role (*ibid.*, p. 538). De Laguna treats the neurological correlates of perception similarly. She does, to be sure, accept that perceptions of simple qualities like colour have neurological correlates but argues that these too are identified by their roles in larger complexes (*ibid.*, p. 539).

De Laguna supports the claim that mental phenomena are individuated and classified in the same way as those of the nervous system by criticising an alternative. She notes that science and common sense take sense-qualities to be classified “on the basis of immediately felt identities and differences” (*ibid.*, p. 539). She objects to this view by appealing to a private language argument: mental phenomena can be made intelligible

only by reference, direct or indirect, to their function in securing the adjustment of the individual to his environment, physical and social. The fear which the psychologist studies is not a hidden feeling cherished within his breast; it is precisely that feeling which is inspired by determinate objective conditions, and which impels him to characteristic expressions and acts. He can identify a given experience to himself as "fear" only in so far as it sends cold shivers down his back, or gives him a sinking in the pit of his stomach or makes his knees shake beneath him. But even these private earmarks are phrases whose significance is set by common usage (*ibid.*, pp. 540-541).

De Laguna is pointing out that the actual way in which fear is referred to, and thus in which 'fear' acquires its significance and classifies, is by reference to fear's impact on expressions and behaviour. Moreover, attempting to fix the meaning of 'fear' by inner ostension fails because, in identifying an instance of fear as belonging to the class of fears, one can but make use of other terms that acquire their significance in the public way 'fear' does. Importantly, de Laguna does not deny that there might be inherently private states, involving what we would call 'qualia', associated with fear. Her point, rather, is that what 'fear' expresses is not something that is essentially private (de Laguna makes this last point, and further elaborates on her argument, in 'Dualism in animal psychology' (1918b)).

Part of the significance of *EC*'s arguments becomes clear when de Laguna states that their target is Hugo Münsterberg's hypothesis that similar changes in mental processes are ontologically determined, i.e., are constituted, by similar changes in the central nervous system (1918a, p. 535; Strong 1892, p. 183 & p. 187). Münsterberg's position is a variant of type physicalism, a position Ullin T. Place introduced into analytic philosophy in his 1956 paper, 'Is Consciousness a Brain Process?' According to type physicalism, kinds of mental states are ontologically determined by, or identical with, kinds of brain or central nervous system states. Further, *EC*'s criticism of Münsterberg's hypothesis applies to type physicalism in general. The criticism tells us that many kinds of mental phenomena are not known to be, and do not appear to be, correlated in a one-to-one way with kinds of physiological ones. More fundamentally, type physicalism classifies neurological states solely in physiological terms, thus closing the way to situating such states in the behavioural context in which their relations to mental states might be explained.

Just as de Laguna's criticism of type physicalism is partly based on the idea that kinds of mental phenomena need not be resolvable into kinds of neurological phenomena, so too were the already mentioned multiple-realizability-based arguments of Putnam and Fodor, which also targeted type-physicalism. Indeed, such arguments (Ney 2008) led to the introduction of functionalist

theories of mind into analytic philosophy in the 1960s. De Laguna, we will see in the next section, would agree with the functionalist that the classification of a mental state depends on its causal relations to perceptions, to other mental states and to behaviour.³ But the functionalist position is that these causal dependencies suffice to classify mental states. From *EC*'s perspective, some mental states must be classified by their social roles.⁴

It is, finally, notable that *EC*'s use of a private language argument has affinities with Ludwig Wittgenstein's later, influential use of one in his 1953 book, *Philosophical Investigations* (2009). Like her, Wittgenstein maintains that speakers can only refer to mental states using terms that fulfil a social function. Indeed, Wittgenstein's argument aims to support his broader view that shared behaviour is required to make possible the use, and thus the meaning, of phrases (Candlish and Wrisley 2019). De Laguna, as we have seen, agrees. Unlike Wittgenstein, however, de Laguna aims to develop an empirical theory of speech and mind.

4. Behaviour, language and mind

4.1 De Laguna on behaviour, speech and cognition

This section focuses on de Laguna's 1927 book *Speech: Its Function and Development (Speech)*. I first sketch some of *Speech*'s theory of behaviour, speech and cognition. I then present *Speech*'s theory of cognition-based criticism of pragmatism and relate this criticism to key ideas in Willard V. Quine's 1951 paper, 'Two Dogmas of Empiricism' (*Two Dogmas*).

In line with *EC*'s rejection of the view that language expresses private mental states, *Speech* hypothesises that speech primarily functions to coordinate the behaviour of members of human groups (1927, pp. 9-10 & 19-20). *Speech* argues for the pursuit worthiness of this hypothesis largely

³ Thus, although de Laguna refers to herself as a behaviourist (1927), she rejects logical behaviourism, the view that concepts of mental states are just concepts of dispositions to behaviour.

⁴ So, when de Laguna talks about roles or functions, she is concerned with end-directed roles. The functions of modern functionalism are merely causal roles.

by using it to explain aspects of the evolution of speech, along with speech's characteristic structure, and to explain why the development of the human mind, speech and society go together (*ibid.*, pp. x & 3-21).

When a specific type of stimuli tends directly and unconditionally to elicit a specific type of response, de Laguna calls the response a 'type-response'. For example, the alarm cry of a member of a flock of birds tends directly and unconditionally to result in the flock taking flight, so that the flight counts as a type-response. According to *Speech*, the simplest form of animal cry is one that elicits type-responses (*ibid.*, pp. 36-40 & 42). Speech's control of behaviour, by contrast, is conditional in that whether it elicits a response, and which response it elicits, depends on external conditions, as well as on culture and individual psychological state. Speech's control of behaviour is also indirect, in that speech can be evoked by circumstances that are not of themselves of interest or concern to involved speakers (*ibid.*, pp. 42-43). What drives the evolution of speech is that its conditional and indirect nature enables more flexible control of group behaviour than does the animal cry (*ibid.*, pp. 92-101). Such flexibility probably begins to provide a distinct evolutionary advantage during the transition from arboreal life to ground dwelling (*ibid.*, pp. 46-63).

The development of speech drives, and requires, the development of cognition. Speech involves complete acts that are composed of partial acts (*ibid.*, pp. 277-286). Complete acts are functional wholes which attain their goals upon completion. Partial acts are acts the completion of which need not involve fulfilling a goal but that can be combined in various ways to form complete acts (*ibid.*, pp. 145-149, 161-163 & 168-175). The act of seeing-reaching-eating might, for example, be a complete act, with seeing the food as a composing, partial act (*ibid.*, p. 297). Such compositional behaviour requires, as well as enables, sophisticated cognition. At a minimum, cognition must be sophisticated enough to anticipate the completion of a complete act when carrying out one of its composing partial acts (*ibid.*, pp. 174-181). Conversely, the sophistication of cognition depends on the organism's ability to respond to stimuli.

An organism has cognition of some phenomenon if the organism's responses to the phenomenon are regular in that, given a fixed internal state of the organism, responses correlate types of stimulus patterns related to the phenomenon with types of response. The organism's responses to the phenomenon must also be systematically related to each other. An organism with minimal cognition of some phenomenon will exhibit a repertoire of type-responses to stimuli involving the phenomenon and these responses will be related by sharing a goal. Minimal cognition only involves representing objects in relation to very specific activities. Cognitive ability increases with an organism's ability to recombine the behavioural elements of its responses into complete responses and with its ability to reuse behavioural elements across different activities and thus across different goals. Humans' ability to relate responses across an indefinite number of activities means that humans can represent objects as such, that is, can represent objects in relation to each other and in relation to subjects (*ibid.*, pp. 189-191). Importantly, since human responses are related systematically across an indefinite number of goals, such responses are conditional not merely on stimulus patterns and goals in specific circumstances, but also on systems of representational states that remain stable across circumstances.

Cows, for example, respond to grass in a regular and systematic way. The response depends, in a regular way, on the type of grass-environment and on the state of the cow, specifically on whether it is hungry and perceives the feeding opportunity. So too, the response is systematic. It is part of a repertoire of related responses to grass which differ from each other in the way they combine the partial acts involved in cropping grass and not cropping grass when the cow aims to eat. But systematicity and conditionality are limited here, though the cow's cognition is far from minimal. It is only in the context of eating, and only as a function of the type of grass-environment, that cows exhibit grass-related behaviour. The cow, accordingly, can only represent a grass-environment in relation to its eating. The cow cannot represent grass as such (*ibid.*, pp. 192-193 & 195). A human being's responses to, say, rice are systematic in that they are interrelated not only in the context of eating but across an indefinite number of other contexts, including, e.g., learning or wedding exits.

Moreover, this system of responses is sensitive not only to variations in rice's relations to humans across contexts, but also to rice's relations to non-human objects. The human can thus represent grass as such. It is because of the ability to represent objects as such that the human's "psychological environment includes, in addition to values and secondary qualities," which are just objects in relation to us, "also real shapes, causes and effects, and the inner structure of the world to an indefinite extent" (*ibid.*, p. 134).

De Laguna's view that cognition correlates stimuli and behavioural responses implies that, if we are to provide an account of a type of mental state, we will have to provide a causal story about how that type relates families of stimuli and behavioural responses. Further, given that she takes speech behaviour to be key to human cognition, characterising the causal relations between cognition and speech will be key to characterising types of cognitive states which, like belief, are characteristic of humans. Characterisations of such a type of state will also have to include a characterisation of the systems of representations it belongs to and of the highly conditional way in which it guides behaviour. This is so because human responses are highly conditional and reflect cognition of objects as such. Importantly, given de Laguna's view that types of mental states are classified by their teleological roles, the causal relations that make some mental state the type of mental state it is will be those that hold when the state is fulfilling its evolved role.

Speech's steps towards a theory of belief—steps that only aim to provide some necessary conditions for belief and that are only partially spelled out here—illustrate how, according to de Laguna, types of mental phenomena are to be analysed. A belief, on her view, is a state that leads to (a species of) expectation but does so conditionally on the believer's affective attitudes and system of largely socially determined (often implicit) presumptions (*ibid.*, pp. 326-328 & 333). For example, the belief that the water is wet and cold leads, given the appropriate conditions, including appropriate presumptions, to the expectation of the wetness and coldness of the water. The species of expectation associated with belief differs from belief partly because such expectations represent

perceptual presence, or some other subject-relative object, rather than objects as such (*ibid.*, p. 326). De Laguna notes that it is crucial to distinguish between belief and related pathological and quasi-pathological mental states such as psychological suggestion, thus making clear that the causal relations which she takes to be constitutive of belief are those it bears when fulfilling its proper role (*ibid.*, p. 334).

Belief is a conditional determinant of action in the same way that it is a conditional determinant of expectations. Further, belief is a commitment to action that is mediated by what de Laguna terms, 'the speech act of assent'—the act of verbally accepting some matter of fact—and is commonly followed by (internal or external) speech that is a positive preparation for action under appropriate conditions (*ibid.*, pp. 329-330). Indeed,

[a]t a higher level of development, the action to which belief in a proposition commits one is almost entirely the action of speech itself. The relation of the more abstract beliefs to the life of common action becomes so indirect as sometimes to be practically negligible (*ibid.*, pp. 330-331).

That the role of belief in regulating group behaviour is, on de Laguna's view, part of what constitutes belief is clear because all belief, including perceptually based belief, is supposed to be largely socially determined. Indeed, belief proper "appears in the acceptance of the announcements of others as determining one's own attitudes and acts" (*ibid.*, p. 327).

Thought, in the sense *Speech* is concerned with, is more indirectly related to action than belief. Thought is the revision of the conditions under which, and the aims for which, action is to take place. Thus, thought is no mere planning for action but rather includes reformulating the rules and procedures for, and goals of, such planning (*ibid.*, pp. 337-340). To offer an example in which the conditions and ends of action are reformulated, "the re-conceiving of health and disease by Alcmaeon, in terms of a balance of the constituents of the body, not only brought the different ailments under a single unifying category, but it opened the way to a new and systematic practice of

medicine" (*ibid.* p. 340). In some cases, revising the conditions under which action takes place involves revising the conditions of the conditions for action and thus specifying the rules of rationality (*ibid.*, p. 340).

In reformulating the conditions and goals of action, thought has the function of transforming the presuppositions involved in belief and thereby reorganising systems of beliefs and expectations. Finally, thought is a kind of internal discussion, and thus of internalised speech, that aims at promoting agreement. Thus, thought always proceeds under the pressure of the internalised, shared standards that function to promote agreement (*ibid.*, pp. 340-348).

4.2 De Laguna's sympathetic critique of pragmatism and of two dogmas of empiricism

We can now understand an important strand in de Laguna's criticism of pragmatism and how this strand relates to Quine's *Two Dogmas*. In *Speech*, she writes that pragmatists, especially William James, have held that beliefs that have no specific consequences for action are meaningless (*ibid.*, p. 332). In *Dogmatism and Evolution: Studies in Modern Philosophy (Dogmatism and Evolution)*—a 1910 book she wrote with her husband—the pragmatist position is stated more sharply: it is the view that one can analyse the meaning of a belief in terms of what it tells us to do, given our goals and external circumstances (1910, pp. 126-127). Such a view, according to *Speech* and *Dogmatism and Evolution*, fails to take the conditional nature of belief into account. As *Speech* puts it,

[a]s a matter of fact, no believed proposition taken by itself is capable of determining any specific act, nor does it independently imply any other proposition. It is only a conditional determinant of either the primary acts that are ascribed to it, or the secondary assertions in language of other propositions (1927, pp. 332-333; cf. 1910, p. 205).

De Laguna recognises that pragmatists understand that beliefs are evaluated holistically, as parts of systems, rather than individually (1910, p. 129). But her point is that this understanding has

implications that pragmatists had not yet adequately recognised. If one accepts that it is only as a collective that beliefs have implications for action, one must accept that no individual belief has a package of implications for behaviour that might be identified with its meaning. Given that mental states are to be understood in terms of their functions and that the function of belief is the conditional determination of collective action, de Laguna supposes, with some hedging, that the meaning of a specific verbal expression of belief is fixed by what specifies the conditions under which the belief determines action and thus by the system of presumptions to which it belongs (1927, pp. 328-331).

De Laguna also targets the pragmatist conception of thought. As de Laguna understands it, the pragmatist view is that thought always aims to address some specific, rather than general, problem that arises in specific conditions. Further, thought succeeds in resolving its problems when it issues in belief and thus in consequences for overt behaviour (*ibid.*, p. 353). The criterion for evaluating thought, the pragmatist accordingly accepts, is success in guiding behaviour. De Laguna is sympathetic to the pragmatist position and holds that, ultimately, all thought is evaluated in light of its role in guiding overt conduct. As *Dogmatism and Evolution* puts it,

[w]e must not, of course, fail to recognize that mental behavior can never become more than relatively independent of overt conduct. Its roots are in practical and social life, and the very condition of its health lies in an ever renewed contact with, and adaptation to, the changing phases of such life (1910, p. 198).

But the pragmatist's claim that all thought is concerned with specific problems fails, according to de Laguna, sufficiently to take into account the social function of thought. In addition to thought's being constrained by the world, via its success in guiding conduct, it also is, and must be, constrained by the social function of securing agreement and thus by standards that operate relatively independently of their success in guiding primary behaviour, that is, behaviour that is a direct response to objects in the environment (1927, pp. 37 & 350-352). Moreover, the existence of such

relatively independent standards involves the existence of standards that operate relatively independently of specific problem contexts and that are relatively general in their applicability (*ibid.*, pp. 353-355).

De Laguna's criticism of the pragmatist's conception of belief is close to Quine's later, often supposed to be revolutionary, criticism of logical positivism in *Two Dogmas*. There, Quine rejects what he takes to be the positivist proposal that each belief comes with its own implications for experience and thus its own empirical meaning, arguing instead that it is only as systems that beliefs have empirical implications and thus meaning (1951, pp. 35-39). This is de Laguna's point against the pragmatists when she complains that they fail to recognise the implications of the observation that beliefs are evaluated holistically. Indeed, like *Two Dogmas* (*ibid.*, p. 39), *Dogmatism and Evolution* associates the view that meanings are fixed systematically with the view that all beliefs are to some degree synthetic, in the sense of being true by virtue of the empirical facts, and thus that their assessment always depends on their success in guiding conduct (Katzav, forthcoming).

5. Naturalistic and existentialist ontology

5.1 Potentiality, individuality and the problem of universals

I now turn to de Laguna's 1966 book *Existence and the Human World (Existence)*, which collects, and builds on, papers published during the period 1941-1963 and does so in order to present aspects of her ontology. One of the questions addressed in *Existence* is how universals, conceived of as beings that can be multiply instantiated, can be related to individuals, conceived of as a kind of concrete existent. A second question is why only certain universals come to be found in our world (*Existence*, pp. 43-44). De Laguna's response to these questions posits an unfamiliar category of being, the ideal continuum. The ideal continuum is the inexhaustible, potential aggregate of instantiated essences, a potential the being of which is independent of all actually instantiated essences and all individuals. Thus, any actually instantiated essence, e.g., a specific human's instance of rationality, is conceived

of as an actualisation of the ideal continuum. Two instances of the same essence are conceived of as two qualitatively identical actualisations of the continuum. The ideal continuum is inexhaustible in that it is the potential for an infinite multiplicity of instances of essences, and is independent of individuals and essences in that it could have been actualised by individuals and essences other than those that actually do so (*ibid.*, pp. 50-52).

Universals' instances are, in addition to being actualisations of the ideal continuum, constituents of, or ingredients in, individuals (*ibid.*, pp. 40 & 51). Moreover, universals are ontologically dependent on their actual instances; as de Laguna puts it, "[a]part from the existence of concrete individuals there are no essences" (*ibid.*, p. 51). Further, she thinks of universals as conditional potentialities for actualisation, that is, as potentialities that actualise or manifest certain effects in the appropriate spatiotemporal circumstances (*ibid.*, pp. 40-41). Finally, universals should not be thought of as one-place properties. An individual's having some potentiality involves that individual's being appropriately related to other individuals with reciprocal potentialities, where reciprocal potentialities are potentialities that can only be actualised jointly. That individuals' potentialities are not one-place properties implies that what kind of individual an individual *is* is not independent of what other kinds of individuals there are. Hydrogen's potential for combustion, for example, has reciprocal potentialities that are essential to oxygen, so that hydrogen cannot be combustible unless oxygen exists (*ibid.*, pp. 52-54).

While universals are ingredients in individuals, each individual's unrepeatability means that it is more than a collection of instances of universals. The individual is also ultimately a 'this-here-and-now'. In paradoxical terms, an individual *is*, ultimately and necessarily, qualitatively unique. Thus, all individuals combine their fundamental, qualitative uniqueness and their universals or potentialities. Further, it is the individual which acts to realise its potentialities. As a result, its actions are also qualitatively unique. Because individuals and their actions are unique, neither individuals nor their actions can be exhaustively described in general terms (*ibid.*, pp. 36-37, 57-59 &

77-78). The uniqueness of individuals' individuality also means that individuality should be distinguished from existence. Existence is the mode of being that is *shared* by individuals (*ibid.*, pp. 36 & 43). An individual's existence is, at least in part, the individual's continuous actualisation of certain potentialities that are basic in that they are essential for the actualisation of the individuals' other potentialities; in other terms, the existence of an individual is in part its self-maintaining, continuous actualisation of the ideal continuum (*ibid.*, pp. 62 & 95-96).

Because the network of reciprocity between actual potentialities is rich, the interdependence between the existence of different kinds of individuals is extensive (*ibid.*, pp. 52-53). Indeed, the network of reciprocity between potentialities is, according to de Laguna, such that "the coming into existence of any individual...carries with it the coming into existence of a world" (*ibid.*, p. 53). Further, since universals are actualisations of the ideal continuum, the coming into existence of a world involves a partial structuring of the ideal continuum; the continuum is partially actualised in the reciprocal potentialities of individuals. Importantly, many of these potentialities are indeterminate to some degree or another. An indeterminate potentiality is a determinate that is possessed by an individual without the corresponding determination. For example, a coloured object without any specific colour would be an object with an indeterminate potentiality, according to de Laguna. Indeterminate potentialities determine the structure of the world, that is, they constrain which determinate potentialities might come to be instantiated, but do not determine which individuals exist or which determinate essences are instantiated (*ibid.*, pp. 52-54).

It is the activity of individuals that ultimately brings about change, including the structuring of the ideal continuum, the increasing determinateness of universals and the creation of new individuals and kinds of individuals (*ibid.*, pp. 59-60). As the kinds of individuals found in the world change, indeterminate potentialities become more determinate and some become fully determinate. Moreover, as a potentiality becomes more determinate, its actualisation comes closer to being a real possibility; the potentiality's actualisation is a real possibility when the potentiality is

fully determinate (*ibid.*, p. 53). By way of illustration, the hydrogen in a world without oxygen would not be combustible but would have the determinable property of potential combustibility. This potential combustibility would, were oxygen to come into existence in the same world as the hydrogen, become more determinate and come closer to being actualised. Indeed, if all the conditions for the actualisation of, say, a canister of hydrogen's potential combustibility were fulfilled—perhaps the hydrogen needs to be in the same solar system as the oxygen—the hydrogen's potential combustibility would be actualised and the hydrogen would be combustible (*ibid.*, p. 42).

The discussion of universals in *Existence* targets views, such as those of Alfred N. Whitehead and George Santayana, according to which universals are independent of time and the individuals in it. If we think of universals as being independent in this way, it will be unclear how universals might be related to temporal individuals and, further, it will be inexplicable why only certain universals do come to be so related (*ibid.*, pp. 43-50). On de Laguna's view, by contrast, the activity of temporal individuals brings universals into being. The ideal continuum does not contain universals. It is merely the continuum of potentialities for instances of universals. As for why some universals come into being and others do not, this is explained by the individual driven structuring of the ideal continuum and the constraints this structuring places on what might be.

5.2 A naturalistic critique and appreciation of Heidegger's existentialism

De Laguna's tale of the structuring of the ideal continuum includes, as we have seen, a view about the existence of individuals. The existence of individuals is, at least in part, their continuous self-maintaining activity of actualising the ideal continuum. De Laguna continues to develop this view into the beginnings of an ontology of nature. For example, she describes, and distinguishes between, the modes of existence of nonbiological individuals, organisms and human beings (*ibid.*, pp. 62-68). In this context, she contrasts her own treatment of existence with Heidegger's treatment of the being of humans—what he calls 'Existenz'—in his book, *Being and Time* (*ibid.*, p. 82).

According to Heidegger, humans alone are able to ask, and ask, what the being of beings amounts to. Further, humans are distinguished by having a preliminary understanding of their own mode of being and, as a result, of the being of all beings; this preliminary understanding consists in the understanding that their own being comprises being able to ask about, and having some understanding of, the nature of being (*ibid.*, pp. 82-83). But Heidegger adds that our self-understanding, and thus our being, is incomplete. Heidegger here is to be understood as making an ontological claim; there is a certain mode of being that characterises humanity, one in which we are related to ourselves in a certain way, via understanding, and this way of being involves incompleteness. For Heidegger, our incompleteness is an issue for us, one we are free to overcome by actualising our own potential for self-understanding and free to succumb to by not actualising this potential (*ibid.*, pp. 83-84). Importantly, from de Laguna's perspective, Heidegger thinks of our incompleteness as a positive potentiality for being. Also important, our self-understanding and thus our being is to be understood as a form of care for ourselves. It aims at a certain kind of self-maintenance, one which involves realising our characteristic potentialities (*ibid.*, pp. 84-85).

The first problem de Laguna raises for Heidegger concerns his treatment of the being of nonhumans. Heidegger characterises the being of nonhumans insofar as they are encountered in the human world, that is, in the world revealed by care. As beings that are encountered, their being can involve being present-at-hand, that is, can involve a complete lack of potentiality/being wholly present. This is compatible with its being the case that it is only as encountered that nonhuman beings might lack potentiality. But Heidegger is explicit that nonhumans do not share in care; their mode of being is mere existence rather than Existenz. Moreover, care is the only mode of being that he recognises and does not characterise merely as something encountered. He thus must suppose that, when nonhumans are present at hand, their being is their presence (*ibid.*, pp. 85-86). Heidegger's position is, accordingly, a dualist one; it recognises care—a form of potentiality—and presence—having no potentiality—as two modes of being that share nothing. As a result, Heidegger fails to provide what he promises, namely an account of the being of all beings (*ibid.*, pp. 88-89).

Indeed, he tells us no more about the being of nonhuman beings than that it involves somehow being encountered. As a result, his position threatens to lapse into idealism, a position he aims to overcome. Here, de Laguna finds it particularly telling that, while Heidegger recognises that the being of living, nonhumans poses a distinct ontological problem, the problem is not one he addresses. This, on her view, underlines his failure to escape idealism and to provide a general account of being. Further, since Heidegger never identifies a specific ontological problem concerning nonliving, nonhuman beings, he provides further reason to suspect that he must take their being to be exhausted in their being encountered by us (*ibid.*, pp. 86-88).

A related problem for Heidegger concerns the provision of an adequate ontological interpretation of the evolution of human beings. According to Heidegger, our self-concern, and thus our being, is a condition for encountering beings in nature. As a result, if the being of beings in nature is exhausted by their being encountered, the question of how our being emerged from that of nature is confused. It asks for the temporal origin of something that makes nature, including time, possible. For de Laguna, however, the philosopher must explain the evolution of our mode of being. Not unrelated, the philosopher must reject an inexplicable chasm between the being of humans and that of animals. These requirements, on her view, are a corollary of the discovery that beings evolve (*ibid.*, pp. 99-100).

De Laguna's criticism, then, is that Heidegger's ontology fails on its own terms because it creates a chasm between nonhuman and human modes of existence, and does not provide an adequate account of nonhuman being. Equally, these are failures in light of the evolution of human beings and the implied need for an evolutionary account of being. Nevertheless, de Laguna is sympathetic to much of Heidegger's conception of ontology. She too thinks that ontology centres on an investigation of what it is for beings to be, as we will see. Moreover, she agrees that incompleteness is an important ingredient in our existence. She merely argues that this incompleteness must be thought of as an ingredient in the existence of all individuals, living and

non-living alike. The existence of all individuals includes potentiality and one or another form of self-maintenance.

6. On what it is for people to exist

People share a special mode of self-maintenance and thus of existence, one that involves the cultural world (*ibid.*, pp. 148-149). The cultural world is a world of convention and historical tradition, and includes people, their behaviour, their social roles, a conceptual repertoire and an associated set of values. The conceptual repertoire and set of values make possible, and play a role in causally determining, the patterns of objects experienced by the people inhabiting the cultural world as well as the people themselves, their interrelations, including their social roles, and their activities. Conversely, the patterns exhibited by objects and people found in the cultural world make possible, and have a role in causally determining, its conceptual repertoire and values. Thus, people depend for their existence on the cultural world's conceptual repertoire and values. At the same time, however, the cultural world depends for its existence on people. What is distinctive about the mode of existence of people is that it includes the activity of maintaining the culturally patterned human community and its way of life (*ibid.*, pp. 109-112 & 149-150).

Maintaining the cultural world includes playing, and combining, multiple social roles from among those roles, and combinations of roles, which are enabled by the cultural world (*ibid.*, pp. 112-113). But, recall, the individual and the individual's acts are supposed to be unique. Roles, by contrast, are repeatable. As a result, no role exhausts a person's potentialities for acting. Moreover, each individual person carries out specific roles, and amalgamates multiple roles, in a unique way. Thus, according to de Laguna, being a person involves playing social roles but doing so in a way that reflects one's individuality and transforms the cultural world (*ibid.*, pp. 113-114 & 119).

Individualised role-playing behaviour, and thus the existence of a person, involves exercising characteristic cognitive capacities, including the capacity to abstractly discriminate whether objects

and persons belong to culturally recognised classes and whether ways of behaving conform to established custom (*ibid.*, p. 115). Not surprisingly, these cognitive capacities are among those de Laguna ties to the development of speech and objective cognition in *Speech*. So, the evolution of the group behaviour supporting cognition of humans outlined in *Speech*, including of thought and belief formation, is supposed to be part of the existential change that involves the creation of people and the cultural world they inhabit. Importantly, the capacities required for being a person also include capacities for non-primary emotions such as admiration and contempt, and for evaluative attitudes such as approval and disapproval. According to de Laguna, the capacities for conceptualisation, for non-primary emotions and for evaluative attitudes are interdependent. For example, we might admire someone for their courage, and thus as belonging to a conceptualised class. Or we might have contempt for someone for their cowardice. Conversely, the sharing of feelings such as admiration and contempt is a necessary condition for symbolic communication in ceremony, tradition and language (*ibid.*, pp. 115-117). Further, since acquiring capacities for conceptualisation, emotion and moral evaluation is required for being a person, so too is participating vicariously, via the sharing of stories, in the shared story of a community, that is, so too is having a history. For it is only through the sharing of stories of a common past that the individuals of a community can acquire its values and standards, and thus develop the capacity for having non-primary emotions and evaluative attitudes (*ibid.*, pp. 117-118).

I will bring out one more aspect of the conception of the existence of a person put forward in *Existence*. The person must be a self and recognise itself and others as selves. This means, in part, that the person must acquire intellectual and emotional knowledge of itself as an object of knowledge and as a moral being. Knowledge of one's self as a moral being involves conceptualising oneself as an individual among others who are subject to judgement in accordance with available, general standards of right and wrong. Knowledge of one's self as a moral being also involves exercising self-control (*ibid.*, pp. 119-120 & 125-126). And while the self of which we become aware is initially the one presented to us by others' feelings and attitudes towards us, this self is

transformed by self-knowledge. Learning about one's self invariably involves a change in who one is and thus always results in incomplete and inadequate self-knowledge (*ibid.*, pp. 121-122 & 128-129). Finally, the idea we acquire of ourselves in the development of the self is, in part, a self-ideal. The idea of the self has a normative dimension to which we aim to conform, one reflecting and altering the ideals of our culture (*ibid.*, pp. 130-131).

7. The nature of speculative philosophy

Existence's discussion of the person leads on to its treatment of the problems of freedom, of value and its relation to existence, of rationality and its dependence on culture, of the relationship between the *Lebenswelt* of European philosophy and the cultural world as de Laguna understands it and, finally, of cultural relativism and science. In the space that remains, I can only focus on the conception of speculative philosophy that *Existence* exemplifies. De Laguna's 1951 paper 'Speculative philosophy' (*SP*) provides a succinct statement of her vision of such philosophy; more extended discussion is found in her 1936 paper, 'Being and knowing: a dialectical study' (*BK*). *Speech* and *Existence* provide further, scattered information about her views. As she understands it, speculative philosophy includes ontology, conceived of as inquiry into the nature of being (1936; 1951, p. 4; 1966, p. 27). Inquiry into the nature of being involves inquiry into what the various modes of being are and a consideration of whether specific modes of being are ultimate or fundamental. More importantly, according to de Laguna, ontology includes the systematic consideration of how different, fundamental modes of being are related to each other (1966, p. 27). This means, since evolution gives rise to new, fundamental modes of being, that ontology includes the always incomplete story of how being evolves. Moreover, since the acquisition of knowledge is itself the development of a new, fundamental and always evolving mode of being, ontology includes the always incomplete story of how knowledge develops, from the emergence of simple cognition to that of scientific knowledge in its various forms and of epistemology, the knowledge of knowledge.

Thus, ontology includes natural philosophy and epistemology (1936, pp. 438-439; 1951, pp. 4-5; 1966, pp. 63-64 & 99-100). Ontology depends on epistemology not only for completeness but also for justification. An ontology, as a claim to knowledge, has an (at least) implicit epistemology. The extension of an ontology with the aim of showing how the thinker and her knowledge is a part of nature and, more broadly, being is accordingly an attempt to show that the ontology is coherent. Correlatively, an epistemology's commitment to the existence of knowers and to objects of knowledge means it has an (at least) implicit ontology. The development of an ontology that fits an epistemology is accordingly an attempt to show that the epistemology is coherent. Demonstrating the coherence of an ontology and an epistemology would be a justification of both (1936, pp. 454-455; 1951, pp. 4-5).

De Laguna's vision of speculative thought fits well with her own work. Her general account of the individual is a part of a sketch of an ontology, a sketch which covers the evolution of modes of existence, from those of pre-biological individuals to those of persons along with their ability for objective knowledge. Similarly, her account of human cognition in *Speech* and in *Dogmatism and Evolution* is part of her ontology and not just her epistemology. The account is, since it describes the way in which human cognition might have evolved, a step towards showing how human knowledge, including the knowledge of knowledge, might fit within nature.

A further aspect of speculative philosophy as de Laguna understands it is its commitment to naturalism. The speculative philosopher's attempt to provide a coherent ontology and epistemology must not only be an interpretation of experience, it must provide interpretations that are appropriately constrained by the special sciences. More specifically, the speculative philosopher is to treat being's development as continuous and explicable, and thus her explanations should start from observations and explanations offered by the special sciences and should include forms that are, like evolutionary explanations, akin to those found in science (1951, pp. 15-16; 1966, pp. 99-100). That this requirement is key to de Laguna's work is clear in her career long insistence that ontology

should provide an evolutionary account of the development of cognition. The need to evaluate ontology in light of its interpretation of scientific experience is also seen in the more abstract parts of her ontology. For instance, her theory of how universals become determinate over time generalises from scientific hypotheses in a variety of ways, including not only by raising the already mentioned hypothesis that evolutionary explanations can be extended to pre-organic matter and to human history, but also, for example, by proposing (1966, p. 98) that each individual's existence comes to an end.

Importantly, de Laguna insists that speculative philosophy's engagement with science should involve speculation that goes beyond available science as well as criticism of available science (1951, pp. 4 & 16). For example, *Speech* does not tend to limit itself to examining the implications of the scientific theories of its day when it comes to theorising about speech and cognition, or even to limit itself to analysing or theorising about what were then the known facts about speech and cognition. *Speech* ambitiously extends scientific theory, makes novel claims about particular evolutionary transitions and extends evolutionary explanation to historical evolution. Similar ambition drives the claims that pre-biological evolution occurs. De Laguna turns to criticism of science in claiming, for example, that each special science provides a perspective on phenomena that is conditional on assumptions about individuation and classification. Because of this conditionality, scientists are not, as scientists, in a position to settle questions about what the ultimate elements of reality are (1917b; 1966, p. 5). Relatedly, science's reliance on general principles of classification means that it is limited to providing general characterisations of phenomena and thus cannot fully characterise individuals or their actions (1917b, p. 182; 1966, pp. 63-64 & 77-78).

The requirement that speculative philosophy interpret experience and draw on science is not, according to de Laguna, sufficient to make such philosophy scientific:

[t]he speculative metaphysician differs from the scientist in that the metaphysician aims to make the world and his own place in it imaginatively intelligible to himself in terms

communicable to others. He does not set up hypotheses to be proved or disproved. And while he must strive for clarity and consistency, he must to some degree rely on metaphor and think in terms that escape the demands of logical consistency (1966, pp. 63-64).

Thus, the speculative philosopher's goal in interpreting experience is not to test her interpretations in the way a scientist does but only to make shareable, systematic sense of experience. At most, speculative philosophy might sometimes lead to new developments in science. According to de Laguna, for example, it is only by trying to trace the evolution of human cognition that we may "hope in time to replace epistemology by a scientific psychology of cognition" (1927, p. 207).

Further, speculative philosophy differs from science in using contradiction and metaphor in order to characterise the ultimate constituents of reality. The speculative use of metaphor and contradiction is found in de Laguna's discussion of individuality, for example. Individuality cannot literally be characterised in general terms, but the speculative philosopher aims to deploy general terms such as 'qualitative uniqueness' in order to characterise, in a metaphorical and paradoxical way, individuality (for more on the use of metaphor in philosophical speculation, see de Laguna's 1972 paper, but only posthumously published, 'The Individual and the Continuum' (1981)).

De Laguna develops her naturalism in the early decades of the twentieth century, when (Verhaegh 2018) naturalism was not yet part of analytic philosophy and, indeed, when key analytic philosophers such as George E. Moore and Gilbert Ryle aimed to exclude naturalism from mainstream philosophy (Katzav and Vaesen 2017; Vaesen and Katzav 2019). It is only under the influence of Quine in the 1950s and 1960s that naturalism is accepted in analytic philosophy (Verhaegh 2018). Even during these decades, however, the kind of systematic imaginative philosophy de Laguna produced, especially aspects of it that go beyond and criticise science in substantive ways, were not welcome in analytic philosophy (Katzav 2018). Something like de Laguna's reimagining of our place in the world became common in continental philosophy. Yet twentieth-century continental philosophy did not have at its heart her commitment to scientifically

informed naturalism. The way she combined naturalism with a penchant for speculative thought was characteristic of much twentieth-century American speculative philosophy, including key pragmatists, such as Charles S. Peirce, process philosophers, such as Whitehead, and Hegelians, such as Creighton (De Laguna 1951; Katzav forthcoming).⁵

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