

Alfred Russel Wallace Notes 33. The Story in Evolution.

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Summary: Alfred Russel Wallace (1823–1913) is best known for his independent formulation of the principle of natural selection. In this work I first review my understanding of Wallace’s intellectual development on this subject, including the notion that he had no model for the evolution of higher consciousness as of his first treatment of natural selection in 1858. This leads to some conclusions about his approach to the subject, and links to parallel ideas inherent in the philosophy of Baruch de Spinoza (1632–1677). *Key words:* Alfred Russel Wallace, human evolution, mental evolution, stories, story-telling, evolution, spiritualism, Baruch de Spinoza.

Evolution

Among the most basic Wallace/Darwin confusions is one pertaining to the actual nature of their most famous discovery. It is often seen written that it was Darwin and/or Wallace who developed ‘the theory of evolution’ as we now generally recognize it. In reality, the *concept* of evolution has been around since ancient times, and it was only through Darwin’s and Wallace’s efforts that an explanation for an underlying mechanism of biological change was finally developed that could face up to rigorous tests. This is classic ‘Darwinism’ (with a nod to ‘Wallaceism’): *i.e.*, ‘the theory of evolution by natural selection’. One may think of natural selection as a kind of filter through which every population passes to maintain an equilibrium with its environment: a dynamic equilibrium, to be sure, as in so doing individual populations tend to change over time, displaying ‘evolution.’

But, in fact, no general ‘theory of evolution’ exists (not that we are not making progress, however: note Hazen & Wong 2024; Wong *et al.* 2023). For the best overall definition of ‘evolution’ that I know of, we can turn to Wallace himself:

. . . As a partial explanation (for no complete explanation is possible to finite intelligence) of the phenomena of nature, it [evolution] illuminates every department of science, from the study of the most remote cosmic phenomena accessible to us to that of the minutest organisms revealed by the most powerful microscopes . . . Evolution, as a general principle, implies that all things in the universe, as we see them, have arisen from other things which preceded them by a process of modification, under the action of those all-pervading but mysterious agencies known to us as “natural forces,” or, more generally, “the laws of nature.” (Wallace 1901, pp. 3-4)

This depiction, taken from an essay Wallace wrote for a newspaper in celebration of the arrival of the new century in 1901, makes it clear that his concept of evolution extended to

beyond the merely biological (e.g., the ‘origin of species’), incorporating the gamut of cosmological eventualities. The key word in the excerpt above may actually be “arisen,” as he seems to imply that there are universal “forces” (laws?) in play that, in acting upon one another, have given rise to observable changes in “all things.” This is a direct nod to one of the fundamentals of the worldview of Wallace’s hero Alexander von Humboldt: that the earth’s surface consists of a myriad of restless forces whose net countering effect on one another is to keep the overall environment ‘in harmony’ (Smith 2023a).

Wallace’s take on evolution is largely a function of three of his earliest intellectual engagements. In the late 1830s he fell in with the socialist-utopian Owenist movement, accepting, among other things, that individual destinies are shaped primarily by one’s environment (thus viewing ‘nurture’ as more important than ‘nature’). Then, in the mid-1840s, he (1) became a transmutationist, inspired by the arguments advanced in *Vestiges of the Natural History of Creation* (Chambers 1844), including the notion that humankind was destined to evolve into ‘superhuman’ beings, and (2) invested in the ecological energetics model (‘surface physics’) espoused by Humboldt in works such as *Aspects of Nature* and *Cosmos*. Wallace would emerge from these attachments as, essentially, the same person we view some fifty-plus years later in the quotation given just above. More specifically, he believed there existed a process of evolution characterized by an intermingling array of forces that would eventually produce beings of a near-Godly character.

But there was no place in this picture for extra-natural first causes: that is, the conventionally-conceived ‘God’ was absent from it. Instead, behind-the-scenes natural forces were envisioned as constantly at work, tending to produce, locally, directioned developments. On numerous occasions (e.g. Smith 2012, 2013a, 2013b, 2016) I have expressed my belief that his cosmological model is best understood as one involving final causes; these ‘final causes’ might be pictured in terms of laws/forces both known (e.g., natural selection), and/or not yet known – but not of creationist teleology.

As a perceptive field naturalist, however, Wallace’s approach to the study of biological evolution in particular focused on the immediate behavioral/ecological controls on organismal adaptation and function. The vast majority of Wallace’s theoretical investigations feature a search for synergisms or, more particularly, feedbacks (to apply modern concepts not in general use in his time). The clearest example of this is the natural selection model itself. In the milestone Ternate essay (Wallace 1858), he famously refers to the setting he imagines (he does not use the yet-to-be-seen Darwinian tag ‘natural selection’) as:

. . . The action of this principle is exactly like that of the centrifugal governor of the steam engine, which checks and corrects any irregularities almost before they become evident; and in like manner no unbalanced deficiency in the animal kingdom can ever reach any conspicuous magnitude, because it would make itself felt at the very first step, by rendering existence difficult and extinction almost sure soon to follow. (Wallace 1858, p. 62)

This passage is so strongly suggestive of the notion of negative feedback control that Gregory Bateson would later (Bateson 1972, p. 435) claim that “Wallace, in fact, proposed the first cybernetic model,” and then (Bateson 1979, p. 43) that “If it had been Wallace

instead of Darwin [who started the trend], we would have had a very different theory of evolution today. The whole cybernetic movement might have occurred one hundred years earlier as a result of Wallace's comparison between the steam engine with a governor and the process of natural selection." While this is a bit of an overstatement (Wallace never wrote anything that *specifically* explored the concepts of feedback or cybernetic control), it is nevertheless true that this commandeering of Humboldt's 'equilibrium of forces' model here stands as history's most outstanding example of the latter's application to real world processes.

Wallace's conceptualization (which he would later frequently refer to as "the *law* of natural selection") would elicit discussions as to whether he was always describing an 'evolutionary' process at all, but eventually most observers settled on a compromise distinguishing 'stabilizing selection' (loosely, selection occurring, but with little or no 'directional' change) from 'optimizing selection' (selection occurring, resulting in irreversible gene pool and adaptational changes).

Wallace's analysis of synergistic forces was by no means restricted to biological settings. Three other contexts immediately come to mind (and these three certainly do not exhaust the list):

1. In the late 1870s, he stepped up his attention to the causes of glaciation, and in particular the Ice Ages. Although this initially was to help him understand the causal influences on large-scale patterns of animal distribution (e.g. Wallace 1876), he eventually developed this study into a full-scale theory of the causes behind the Ice Age, in so doing becoming the first to pose a multi-causal (combined astronomical and geophysical/hydroclimatological) explanation for its occurrence (Wallace 1880).

2. Wallace's argument that only Earth was likely to sponsor advanced lifeforms was based on his review of astronomical data, coupled with his investigation of the probable surface conditions on Mars. His conclusions included the now-named 'goldilocks zone' concept (for which he is rarely credited), and predictions about the Martian landscape that were accurate enough to impress later generations (including Carl Sagan: see Sagan 1970).

3. On several occasions Wallace discussed how local land development strategies were negatively influencing microclimate, mostly to our disadvantage. See, for example, Wallace (1878, pp. 18-21; 1898, Chapter XXI; 1903, pp. 254-257), and Anon. (1887).

This brings us to a second fundamental confusion regarding Wallace and evolution.

Spiritualism

Spiritualism is often regarded as a religious belief; this characterization plays easily enough, as it posits the existence of forces most consider to be beyond objective verification. Still, many in Wallace's day – and indeed Wallace himself – viewed the alleged 'Spirit Realm' as operating under natural law-based influence, in contradistinction with many of the notions – heaven and hell, for example – promulgated by the world's great religions. Importantly, the term 'spiritualism' itself actually describes two somewhat different things: first, the projected operation of a distinct set of nonphysical *natural* forces,

and second, the organized body of moral conclusions drawn from the supposed existence of these forces.

This distinction is important because it means that some, at least, of the followers of spiritualism believed they were dealing with *natural* processes that produced *intelligible* results. These 'results', to the extent they could be identified, were figured to have some importance in the way people were living their lives, so implicit in the overall idea is the presence of modifiable personal realities. This is where Wallace comes in.

While most people's opinions on spiritualism have been guided by their views on the questionable legitimacy of seances and their manifestations, Wallace had come to it as he was considering the kinds of forces/influences that might aid human society in its efforts to overcome its Malthusian limitations. I have written before on how the evidence suggests that as of 1858 Wallace had not settled on a model of the development of higher consciousness, despite his Ternate paper outlining Darwin-like thoughts on the more fundamental elements of natural selection (Smith 2023b). His search for a more complete understanding intensified after he returned from the East in early 1862, culminating in a series of short communications he published in late 1864 and early 1865 (Wallace 1865a, 1865b, 1865c, 1866a) that tried to anticipate the kinds of moral/ethical changes he reasoned could sustain a meaningful social advance. In one of these (Wallace 1865a), for example, he writes:

. . . It seems almost absurd to say that each man is responsible to every or to any other man for the free exercise of his infinitesimal share in the government of the country, because, in that case, each man in turn would act upon others exactly as he is acted upon by them, and thus the final result must be the same as if each had voted entirely uninfluenced by others. What, therefore, is the use of such mutual influence and responsibility? You cannot by such means increase the average intelligence or morality of the country; and it must be remembered, that the character and opinions, which really determine each man's vote, have already been modified or even formed by the long-continued action of those very social influences which it is said are essential to the right performance of each separate act of voting.

Then, around June 1865, Wallace took his older sister's advice and began to look into spiritualism. For months he undertook an intensive literature review of the subject, at the same time attending a handful of not very convincing seances. In November of that year, however, he sat in on a lecture on the relationship of science to spiritualism delivered by the touring trance-speaker Emma Hardinge (later E. H. Britten); her remarks seem to have been instrumental in guiding his further opinions on the subject. Over the early months of 1866 he temporarily abandoned his science involvements and drafted a long essay (including many quotations from Hardinge) arguing that spiritualism research should be taken seriously. It was published as a series of installments in a secular periodical that summer (Wallace 1866b).

Apparently, however, he was only fully converted in late 1866 after attending a series of seances that featured some convincing (to him, at least) 'spirit manifestations'. His new position astonished many of his more conservative friends, but I submit it was both a logical and to-be-expected progression in his thinking. Per discussion above, Wallace

already: (1) held transmutationist views (2) adhered to a Humboldtian 'equilibrium of forces' view depending on the existence of natural feedbacks (3) had accepted Robert Chambers's notion that humankind was destined to evolve into superhuman beings, and (4) had adopted the Owenist view that individual destinies were largely set by one's surrounding influences. Once convinced that a 'Spirit Realm' really existed and that it must operate according to natural law, it was not a large step to think that it must serve some functional purpose. That function was to facilitate evolution at the level of conscious thought.

Wallace, and spiritualists in general, believed in the existence of 'spirits' of the deceased that could interact with the mental faculties of the still-living. In some special instances, in particular during seances, the former allegedly delivered overt messages of one kind or another, but beyond such sensational fare they were more regularly capable of imparting knowledge of an abstract or emotional kind in the form of acts-related dreams, premonitions, hallucinations, or general feelings of dread, conscience, and remorse. The sum effect for the living was a 'revisiting' of past errors, a kind of focused 'guidance' that might help them make better choices the next time similar circumstances rolled around.

Evolution, however conceptualized, surely represents a redirectioning of, or at the very least sustained change in, the way energy and information are captured, processed, and stored. This sequence is not place-, scale-, or time-restricted. An individual molecule may form and then dissipate in just an instant; a star experiences an orderly development over a period of billions of years. A species population may emerge in a few thousand years, and persist for millions, but near the end of its existence, as it dwindles in numbers, it is likely no longer contributing as much functional information to its surrounding community as it was earlier on. Communities and ecosystems evolve as much as individual species do; meanwhile, a species may go extinct, but at the same time the very atoms and molecules that made up the bodies of its past individual members still exist in one form or another, and are still contributing to evolution at various scales of organization as they continue to circulate through an endless array of interlocking biogeochemical cycles.

On the whole, therefore, we can comprehend an ongoing evolutionary process in the way matter continues to be increasingly organized through the forces of nature. As evolution proceeds, the outcomes of the intermingling of natural forces become ever more diverse – new minerals emerging within new types of rocks formed under increasingly complex geophysical conditions etc., new animal and plant species featuring ever-more elaborate adaptive traits, and new human actions-supporting thoughts and emotions resulting both from the swirl of remembered experience and the logical structures we invent. The human brain in particular is capable of mediating advanced thought – *i.e.*, the kind of thought producing actions that both anticipate and yield results extending to beyond its immediate spatial and temporal setting. Wallace had a term for this ability, first used in his Anthropological Society lecture on the evolution of human races in 1864: 'provident': "Then again, Dr. Hunt wanted me to explain how I could use such a word as 'provident'. Why, is it not perfectly clear that if people live in a country where there is a severe winter, in which little or no food is to be had, that they must provide against the scarcity, and that gradually the race would become a provident race?" (Wallace 1864b, p. clxxxvi). Later, he would extend this line of thinking:

. . . So, those faculties which enable us to transcend time and space, and to realize the wonderful conceptions of mathematics and philosophy, or which give us an intense yearning for abstract truth, (all of which were occasionally manifested at such an early period of human history as to be far in advance of any of the few practical applications which have since grown out of them), are evidently essential to the perfect development of man as a spiritual being, but are utterly inconceivable as having been produced through the action of a law which looks only, and can look only, to the immediate material welfare of the individual or the race. (Wallace 1870, pp. 358-359)

He continues:

The inference I would draw from this class of phenomena is, that a superior intelligence has guided the development of man in a definite direction, and for a special purpose, just as man guides the development of many animal and vegetable forms. The laws of evolution alone would, perhaps, never have produced a grain so well adapted to man's use as wheat and maize; such fruits as the seedless banana and bread-fruit; or such animals as the Guernsey milch cow, or the London dray-horse. (Wallace 1870, p. 359)

And:

. . . At the same time I must confess, that this theory has the disadvantage of requiring the intervention of some distinct individual intelligence, to aid in the production of what we can hardly avoid considering as the ultimate aim and outcome of all organized existence – intellectual, ever-advancing, spiritual man. It therefore implies, that the great laws which govern the material universe were insufficient for his production, *unless we consider (as we may fairly do) that the controlling action of such higher intelligences is a necessary part of those laws,* [my italics –ed.] just as the action of all surrounding organisms is one of the agencies in organic development. (Wallace 1870, pp. 359-360)

In sum, he is implying that our thought process is getting a little extra help from somewhere extending beyond the then- (and now- !) usually recognized limits of nature (don't be misled by the particular phrase "laws of evolution alone" in the second quotation above, however: he probably really means the "laws of biological evolution alone" there), but that the 'help' involved is also a part of a yet broader sphere of nature (per his debt to Humboldtian thinking on hierarchies of causality involving "ever more recondite" forces).

Some might try to argue that Wallace is preaching a kind of 'humankind is God's domestic animal' viewpoint, but this would be a misreading (see Wallace 1871, p. 360). In biological nature, selection of individual organisms takes place probabilistically; they are not aware of the bigger picture. Humans *are* aware, at least to a certain extent, and that extent has grown over time. The spiritualism model of existence is one in which the additional information being made available to the individual can be used to more competently arrive at the subsequent decisions yielding that growth. The individual is being nudged, one might say, rather than being 'overridden'. Wallace himself pointed out this difference in an interview given in 1910: "I do not mean that the control is absolute or that it is of the nature of interference. The control is evidently bound by laws as absolute and irrefragable as those which govern man and his universe. It is certainly dependent on us in a very large measure for its success. I believe we are influenced, not interfered with . . ." (Begbie 1910)

In the remainder of this piece, I offer a few words on how such ‘nudging’ might be taking place – and not necessarily in a way relating to a foundation of spiritualism.

Stories, and Stories About Stories

Just to review, Wallace’s spiritualist view of evolution at the level of the human mind appears to be one in which the ‘Spirit Realm’ interacts with individual people’s awarenesses, providing a kind of messaging designed not to *control* actions, but instead to *stimulate* reviews of previous actions that lead, on the whole, to improvements in future decision-making. In adopting this essentially Owenist kind of thinking, however, Wallace stopped short of trying to explain how the underlying dynamics might themselves have evolved. Instead, he was content to accept that the process was already underway, and went from there. This is arguably a weakness in the whole line of thought, unless one assumes there is a gradual transition from ‘non-thinking’ to ‘thinking’ after all – otherwise, this leaves us believing that the Spirit Realm itself has somehow *always* been there, and that it only connected with humankind once the latter’s physical mental hardware was equal to an advanced communication process. Wallace discusses related difficulties in a pair of letters he sent to *Light* in 1890 (Wallace 1890a, 1890b) in which he in fact opines that the Spirit Realm likely developed slowly, and alongside our higher conscious abilities. But the alternative view – that it could be a prior reality, at least with respect to earthly conditions – is not dismissible at this point, either.

Of course, all of this is on pretty shaky grounds objective-evidence-wise, even if one is inclined to grant benefit of doubt. Yet the core understanding of a ‘stimulated review’ of past behavior as leading to future improvements in decision-making is not one that should be summarily rejected, as other ‘origins’ scenarios can be imagined. These run the gamut, from rather conventional biological psychology-supported understandings of brain function and evolution to thoughts of ongoing interventions by advanced aliens (as the ‘Ancient Aliens’ folks claim . . .). In any case, and whether one accepts a fairly standard Darwinist approach to the matter, or leans toward something more ‘exotic’ (e.g., the ‘alien influence’ model), the basic evolutionary advance via ‘stimulated review’ thesis may find itself most directly suggested by something rather simple: human society’s most fundamental communication medium, the story.

One might argue that for human beings there are really only two basic kinds of information: facts, and the stories built upon them. ‘Facts’ might be considered as, loosely speaking, one-dimensional ‘identity-statements’ about isolated characteristics of our world. We can believe what we see, hear, etc. as individual factual datum points within our streams of consciousness, but even there the *meaning* of a given fact requires our ability to agree on the simple stories that ultimately contextualize them. A batting average of .300 in the sport of baseball may be considered as factually representing a condition of having made three hits in the batter’s last ten at-bats, but this statistical nugget means nothing without an understanding of what a ‘hit’ represents in the domain of ‘baseball,’ or the meaning of numerical representation itself. Similarly, the change from a green to a red light in traffic may be a simple fact, but it means nothing (and may not even be noticed) unless one already has reasons to be on the lookout for such occurrences.

It is perhaps more profitable here to consider the 'story' in terms related to its degree of objectivity in treating the array of events it seeks to describe. At one extreme we have the fictional story, and at the other nonfictional accounts. Obviously enough, a fictional story describes a set of events that never 'actually' happened, whereas nonfiction purports to depict, as representatively as possible, something actual. But the reality is that there is no story, as told, that is wholly free of either fictional or nonfictional associations. There are two basic reasons for this.

First, no history is capable of fully representing *all* of the elements that go into its making. This is easy enough to see in attempts to depict histories of, for example, nations or wars, as the causal factors involved are invariably infinitely complex, and legitimate questions must always arise as to whether any particular rendition of the related influences depicted is truly representative. Even in scientific endeavor, which seeks to identify and explain particular discrete outcomes, there are always problems connected to absoluteness of definition. 'Gravity' as a concept, for example, has changed over time, as has the mathematics (not to mention language) used to characterize it.

Second, and probably less obviously, even fictional stories produce *real*, and sometimes powerful, responses in the people that absorb them. These are often largely *emotional* responses, but they are 'real' enough because they can result both in immediate, observable, personal responses (e.g., tear formation or increases in pulse rate), and alterations of viewpoint that impact future thinking, and acts. Purely rational analyses may also lead to future changes of opinion, but this is often no less true in one's appreciation of fictional stories than it is in pushing forward the frontiers of science. The Bible is an excellent example of a source of productive stories, as it matters little as to whether some or none of these describe *real* events: what matters is that they portray worldly issues that anyone can relate to, and be productively influenced by. Otherwise put, there is more than enough underlying 'reality' in good fiction to make it relevant to the real world condition.

At this point, I wish to try to make a connection between what may subjectively be labeled, conventionally, 'stories' (and pursuant to their relating, 'story-telling') to a more formal view in which: (1) the *material subjects* of certain kinds of stories are actual, natural (temporally and spatially finite), systems, and (2) our appraisals of these latter systems and their interactions represent the 'stories' we construct about same. This moves us in the direction of the philosophy of Baruch de Spinoza, as follows.

A long-held personal leaning has it that all conscious actions taken by living things are in one sense or another commitments made on the basis of what most pleases/satisfies them under the immediate circumstances. This does not suggest that we are all automatons, however: instead, it is a statement about the way our sustaining sources of energy are translated into responses that distinguish among finer and finer alternatives of action. Importantly, this understanding is wholly consistent with Spinoza's concept of the 'conatus', as nicely described by Steven Nadler in 2020:

. . . Every individual necessarily strives to persevere, and what this involves is an effort to preserve, and even increase, its *conatus* or power of acting. It is, in effect, a striving to increase its power of striving. . . . *conatus* involves "an indefinite duration" and goes right

to the heart of a thing's individuation. . . . a human being for Spinoza is not constituted by a union of two independent, really distinct things: a mind (soul) and a body. Rather, a human being, like any finite creature, is a *conatus*, a determinate, finite parcel of Nature's infinite power that is striving to maintain and increase itself. The human mind *is* this particular finite striving as it is manifested under the attribute Thought, and the human body *is* this particular finite striving as it is manifested under the attribute Extension. . . .

Besides explaining *what* an individual is, *conatus* also explains *why* an individual does what it does. If we are talking about human beings, *conatus* is the motivational force that lies at the root of all of a person's endeavors. . . . Everything one desires and does, whatever one seeks to achieve or attain or avoid, is – consciously or not – egotistically motivated by the striving to maintain and increase one's power. . . . There is no more fundamental motive for human action in Spinoza's scheme. (Nadler 2020, pp. 22-23)

In this sense, all of our actions are – not predetermined – but inevitable with respect to each *immediate* causal situation, and this is true whether we are specifically aware of a particular chosen response, or this happens at some level beyond our notice. This all assumes, of course, that there are natural structures – 'finite strivings' as described above – that can perpetuate the 'striving' until such time that its story has ended because of forces beyond its control: forces originating from either (or both) within itself, or its environment. (Even under the most ideal of surrounding conditions, for example, our biological program is such that our ultimate fate is death – which can either be hastened or delayed by factors internal and/or external.)

Spinoza lived in an era predating modern theories of evolution, so his views on the behavior of individuals was not one attuned to considerations of a cumulative temporal framework, whether at the species or societal level. Still, his notion of the 'conatus' is not difficult to translate into an evolutionary context. Natural selection extends the domain of adaptation by working on an ever-increasing genetic variation driven by mutation and, at the environmental level, the concurrent opening of new niches. This is accomplished without the presence of self-awareness; an internal program (DNA) has evolved to mediate the process. But even DNA alone is unable to productively override the Malthusian controls that ultimately supersede it: each population's superfecundity, and the absolute limit to both the surface of the earth (species ranges cannot just infinitely expand), and its component resources. This is where Wallace's notion of the 'provident' being comes into play. His posed 'superbeings' would be able to look ahead and deliberately plan out an existence in which their own potential excesses are curbed, including guaranteeing an ever-productive (*i.e.*, not overexploited) supporting environment. Such 'superbeings', perhaps, can only emerge through their continuing appreciation of the lessons (including logical conclusions) in stories, as broadly conceived here.

It should immediately be apparent that our relationship with stories and story-telling is among the very most important elements of our conscious existence – perhaps, even, the *only* element. Probably, as soon as our species (or its immediate ancestors) became aware that Nature was little more than a myriad of intertwining histories, we invented means of describing those histories as stories, and in a vast variety of ways. Speech or at least some kind of sign language came first, and then writing. Before long, we were informing ourselves through a number of distinct forms of the story: as logic and

mathematics, the graphic and performance arts, and a number of literary and journalism formats. In recent centuries entertainment forms such as novels, plays and motion pictures have come to dominate our attention, but all such variations serve to give people the broadest range of logical and emotional slants on the systems comprising the world around us, including the social world. This allows us to better and better evaluate – both intellectually and emotionally – the state of our condition, and to continue to try to improve our reactions to it. Though sometimes ignored, refinement of emotional involvement is likely just as important as the application of intellect to executing the kinds of decisions that will turn us into fully ‘provident’ beings: after all, when it ‘feels right,’ we do it. This is the key to further ‘evolutionary advance’ among humankind: we just need to expand the spatial/temporal framework of ‘feels right’ to take into account the further and further removed implications of our actions.

Wallace recognized this well: one of the most frequent themes in his social criticism writings was the notion that social advance could not be measured in technological terms alone. This was the central point of his book *The Wonderful Century* in 1898, and hardly less so in 1913’s *Social Environment and Moral Progress*. But he was already discussing the subject in the last few pages of *The Malay Archipelago*, in 1869, an effort that foreshadowed a number of shorter writings thereafter as well. Among the takeaways from this position was the notion that ‘superiority’ among human types was a nonconcept: technology made it possible to dominate, but had little relation to moral advance.

If this line of thinking initially sounds remote from current-day appreciations, consider the following remarks, drawn from a just-published paper appearing in a conventional neuroscience journal:

. . . This manuscript embarks on an exploration of OBEs [out-of-body experiences] as transformative experiences capable of instilling and augmenting empathy in individuals who undergo them. We posit that this phenomenon arises from the dissolution of the ego, facilitated by the shift in perspective inherent in OBEs, thereby fostering a profound sense of unity and interconnectedness with others. . . . The exploration, refinement, and application of methods to enhance empathy in individuals – whether through OBE-related ego dissolution or other approaches – is an exciting avenue with potentially profound implications for individuals and society at large (Weiler *et al.* 2024, pp. 2, 6).

One of Wallace’s main objectives as a social critic was to establish ‘well being’ as a social goal (Collard 2019). It is hard to deny that the “augmenting empathy” notion expressed above could be other than a central component of such a process.

A final, and important, point concerning this interpretation should be introduced. Spinoza’s concept of the conatus seems to be restricted to system-level organization; that is, to individually self-sustaining entities organized in such a fashion that they *can* respond to feedbacks passed through identifiable and persisting constraints and influences. This could be at various scales simultaneously – most obviously, at the level of individual organisms or populations, but not impossibly at the suborganismal (*e.g.*, organal systems, or individual organs) level, or even entire planets (note the Gaea concept). On the other hand, events such as wars or depressions may have an identifiable ‘history’ in one sense, but they are actually only the *results* of the interplay of systems (people, and maybe nation-

states) that are *directly* conatus-driven. Natural selection is another of this class of epiphenomenon: there is no systemic beginning or end to natural selection, just an ongoing parade of results emerging from the natural interactions among individual, conatus-driven, actors.

Discussion

For Spinoza, 'evolution' as any sort of notion was largely restricted to what the individual person could do to 'improve' hi/rself – that is, to 'evolve' oneself into a better-performing conatus. This was something one had to be personally proactive at doing, so Spinoza took it upon himself to identify those characteristics of reason and appreciation that, when implemented, would serve such an agenda. Wallace, though no logician, also recognized the worth of expanding one's appreciation of things, and it is apparent that he had highly valued certain self-improvement strategies as early as his teen years. One of his very first writings, from about 1843, was titled 'The Advantages of Varied Knowledge.' Fragments from this essay, extolling the virtues of conscientiously following a many-directioned life experience, were strategically reprinted in the first volume of his 1905 autobiography. One passage from it is:

. . . There is an intrinsic value to ourselves in these varied branches of knowledge, so much indescribable pleasure in their possession, so much do they add to the enjoyment of every moment of our existence, that it is impossible to estimate their value, and we would hardly accept boundless wealth, at the cost, if it were possible, of their irrecoverable loss. And if it is thus we feel as to our general store of mental acquirements, still more do we appreciate the value of any particular branch of study we may ardently pursue. What pleasure would remain for the enthusiastic artist were he forbidden to gaze upon the face of nature, and transfer her loveliest scenes to his canvas? or for the poet were the means denied him to rescue from oblivion the passing visions of his imagination? or to the chemist were he snatched from his laboratory ere some novel experiment were concluded, or some ardently pursued theory confirmed? or to any of us were we compelled to forego some intellectual pursuit that was bound up with our every thought? And here we see the advantage possessed by him whose studies have been in various directions, and who at different times has had many different pursuits, for whatever may happen, he will always find something in his surroundings to interest and instruct him . . . (Wallace 1905, Vol. 1, pp. 201-202)

Learning as much as possible about as many things as possible was thus inherently advantageous, not just as a simple accumulation of facts, but as a way of experiencing and enjoying life to its fullest.

About 1845 he published a short essay on the purpose of Mechanics Institutions in a local history volume; in it he says:

. . . Periodical publications, even the best and most scientific, cannot be expected to do more than advert to general principles, and describe improvements and extensions of science as they occur – but they cannot treat fully upon any one subject, much less on the whole range of human knowledge. By these alone, therefore, curiosity is excited, but not satisfied, which state of feeling, if long continued, generally leads to indifference or disgust. A library of good and valuable books will obviate this, by giving each an opportunity of studying whatever he may consider most interesting or useful. (Wallace 1845, p. 67).

Later in the essay, in discussing the usefulness of live lectures, he states: "...great good would result from such meetings and such discussions; they would be of the greatest importance in giving every one an opportunity of comparing his ideas with the opinion of others – thus shewing him what is inaccurate, and confirming whatever correct opinions he may have imbibed." (Wallace 1845, p. 69)

In short, Wallace had been contemplating this notion of "how to expand one's horizons" for quite a long time, and it is hardly surprising that he returned to the subject in his efforts in the 1850s and 60s to place human consciousness within the context of a greater evolutionary process. It will be recalled that in 1864 he made the presentation to the Anthropological Society that outlined his thoughts on the relation of natural selection to the evolution of human races; among its most important points was his proposal that the emergence of advanced thought had superseded any further need for significant physical change in human beings, as we could instead use our newfound mental capabilities to counter the environment's challenges:

. . . when any slow changes of physical geography, or of climate, make it necessary for an animal to alter its food, its clothing, or its weapons, it can only do so by a corresponding change in its own bodily structure and internal organisation. If a larger or more powerful beast is to be captured and devoured, as when a carnivorous animal which has hitherto preyed on sheep is obliged from their decreasing numbers to attack buffaloes, it is only the strongest who can hold, – those with most powerful claws, and formidable canine teeth, that can struggle with and overcome such an animal. Natural selection immediately comes into play, and by its action these organs gradually become adapted to their new requirements. But man, under similar circumstances, does not require longer nails or teeth, greater bodily strength or swiftness. He makes sharper spears, or a better bow, or he constructs a cunning pitfall, or combines in a hunting party to circumvent his new prey. The capacities which enable him to do this are what he requires to be strengthened, and these will, therefore, be gradually modified by "natural selection," while the form and structure of his body will remain unchanged. So when a glacial epoch comes on, some animals must acquire warmer fur, or a covering of fat, or else die of cold. Those best clothed by nature are, therefore, preserved by natural selection. Man, under the same circumstances, will make himself warmer clothing, and build better houses; and the necessity of doing this will react upon his mental organisation and social condition – will advance them while his natural body remains naked as before. (Wallace 1864: clxii-clxiii)

By this point Wallace had long since appreciated that 'varied knowledge' might lead to intellectually provident capabilities, but perhaps was not so sure that intelligence alone could bring about the moral improvements necessary to reach an Owenist/Spencerian state of society in which everyone got their fair due. Before very long, however, he encountered spiritualism, which seemed to provide an answer: through dreams and related phenomena people had an opportunity to reassess – especially, *emotionally* – the stories in/of their lives, thereby giving them additional perspective when it came to making related decisions in the future.

Wallace himself was an avid reader, both of fiction and nonfiction, and he enjoyed the telling of stories *sensu stricto*, including in a number of his own writings – usually not just for fun, but to make particular points. Among the best examples of this leaning is his two-part essay 'The Birds of Paradise in the Arabian Nights' (Wallace 1904), which makes a

number of observations about the relationship of story-telling to actual phenomena, including the advice that we should be more aware of the possibility that many supposed myths and legends actually originate in real world events (see *also* Smith 2022). At the essay's very outset, he writes:

A considerable experience among savage and barbarous peoples, and some acquaintance with the records of past ages and the beliefs of unlettered peasants in all parts of the world, have convinced me that, in the great majority of cases, beliefs or legends referring to natural phenomena are founded on facts, and are for the most part actual descriptions of what has been observed, though often misinterpreted, and sometimes overlaid with supernatural accessories. (Wallace 1904, p. 379)

Wallace has been widely celebrated as one of the most important figures in the history of evolutionary biology studies, but one could argue that his most important contribution to evolution studies is not natural selection itself after all – which, one recognizes, Darwin also ‘covered’ – but instead the idea that human social evolution is supra-biological: that is, that it depends largely on forces/causes that lead to results extending “beyond time and space,” and must be evaluated separately, and accordingly.

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