

Wincenty Lutosławski*

DARWIN AND SŁOWACKI [1909]**

Little is known on Juliusz Słowacki's thoughts about biology as a natural science in the strict sense, yet he voiced certain significant ideas which do deserve attention, especially now as the debate on Darwin's theory is continuing.

Słowacki himself went through the experience he used to attribute to his predecessors: *A prophetic poet needs but so little [...] A spark in his mind – and the Sun flares up for him! Something's about to happen – yet it has happened to him! – A miracle's but in the bud – yet in full bloom in him!**** What science was to explain and demonstrate in the future, Słowacki was able to sense and divine in inspiration.

As is common with prophetic utterances, Słowacki was not very specific in his intimations, yet they appear to reflect opinions that certainly yield to empirical proof, even though the process may require a lot of effort, patience and plain good luck.

This report is not designed to prove that Słowacki was right in his thinking, yet I am positive that his ideas, albeit yet unproven, were right.

I first entertained this idea long ago and said so in a study written in German in reply to a call for a contest in a new scientific journal founded in Berlin a couple of years ago. Yet the editors were unwilling to publish my article, and the manuscript was eventually lost.

Later, as I lectured at a dozen American universities on various matters Polish I used to recall that comparison of Słowacki with Darwin, and then the Polish poet's ideas always shone by their depth and brilliance.

The surprise, and to some extent, the appreciation, of Słowacki's theory I saw in my American audiences strengthened me in my belief that the theory I was presenting to them was not a vain product of imagination but an idea deserving scientific scrutiny. So as I was beginning my public activity in Warsaw I chose this topic of Darwin and Słowacki for my first lecture at the Warsaw Philharmonic Hall on 23 November 1908, and now I have prepared

* Wincenty Lutosławski (b. 1863 in Warsaw, d. 1954 in Cracow).

** The paper appeared first as a pamphlet: *Darwin i Słowacki. Według pierwszego wykładu wygłoszonego w Filharmonii Warszawskiej d. 23 Listopada 1908* [Darwin and Słowacki. A text of a lecture delivered at the Warsaw Philharmonic Hall on 23 November 1908], Gebethner i Wolff, Warszawa 1909.

*** *wieszczowi bowiem potrzeba tak mało ... zbłyśnie się w duchu – on już słońce wita! Jeszcze się stać ma – jemu już się stało! – Jeszcze cud w pączku – jemu już rozkwita!*

this for print to invite my fellow countrymen to a discussion of the matter and to undertaking some tests and experiments that may assay the inspired intuitions of Słowacki's genius.

To do that in what I think is the best suitable form I rely on the first version of my lecture I took down on paper right upon delivery and which I published in *Słowo Warszawskie* of 27–29 November, yet I am bound neither by the shape of the lecture nor the article published in the quoted journal as an extensive yet not perfectly accurate summary thereof.

The lecture, as all my lectures, was improvised and it may have included certain thoughts that were omitted in the subsequent edition of the notes for publication. Next to the plain ideas, the lecture carried with it a power of conviction, which tends to be lost in print. The important thing here is the subject-matter, rather than the form of its expression. Form in such cases will elude capture even by a stenographer for it is more than just a series of words and sentences when coming from someone who, to quote Mickiewicz, officiates the Word.

That is why I skip the introductory passage to the lecture that inaugurated my service in the public chair where I explained the way I intended to perform my office. What I said then will be summed up in a separate article where I am going to explain my understanding of what Mickiewicz meant to say to his successors who would have the courage to take up, after him, the mission of officiating the Word anywhere in the name of the Polish Spirit.

Let me now proceed to the matter announced in the title of this contribution, and ask the reader's forbearance and patience as Słowacki himself demanded for the later rhapsodies of *The Spirit King* [*Król Duch*] as he said, *If you are lazy, you may desert this work: but then you will be spell-bound by the truth, which will stop you on your progress to knowledge.**

* * *

It is hard to see how two lives can have differed in more ways than the life of Słowacki, the quintessential poet, from that of Darwin, the quintessential naturalist. They both were born in the same year, 1809, the year in which Lamarck published his *Philosophie zoologique*, a book expounding for a first time ever a scientific theory of origin of species, a view which both Słowacki and Darwin subscribed to and which has come to be known as Darwin's theory.

A couple of months from now Polish people will be celebrating the 100th birthday of Słowacki, as naturalists across the world will be remembering Darwin's 100th anniversary. These two lives just could not be more different. The two men have nothing in common with one another, so those who know Słowacki as a poet but have never heard of his naturalist intuitions may at first find it odd that these two names are mentioned side by side.

* *jeśliś leniwy, dzieło odrzucisz: wszakże zostaniesz pod zaklęciem prawdy, która ci w drodze wiedzy dalej iść nie pozwoli.*

Darwin's grandfather and grand grandfather engaged in natural science, and that hereditary propensity did not end in Charles Darwin himself as it continued into the following generation with his two sons making their names as reputable natural scientists. Darwin himself had little doubt about his calling even though his father wanted him first to be a doctor, later a theologian. His interest in the study of nature showed very early in him. He was barely seventeen when he wrote his first scientific paper presenting his first observations of nature, and even at that time he was intimate to the views of Lamarck, his senior by 50 years as scientific founder of modern transformist theory. At twenty-two he joined that famous five-year voyage around the world which he later made immortal in which he gathered most of the materials for his general conclusions. But it was only in his fiftieth year that he published his most famous book which even in his lifetime attracted everyone's attention not only among naturalists but also, through the efforts of many popularisers, among the broadest groups of educated people in all countries.

Perseverant in his work, moving forward step by step, always in one and the same direction, he continued to add new and new observations to his concept and he lived to see his theories nearly universally accepted. He lived most his life in his country, close to its capital, ploughing his land, a calm and quiet life, in prosperity and with a loving family, getting visitors from all over the world. The kind of life he was given was prepared for him by several generations of predecessors, and Darwin never had to fight to overcome any obstacles, he simply took up the job he was fond of, and apt to do, by heritage. His place in the progress of humankind was marked clearly, and he gladly accepted that, living and dying a happy man, enjoying the years of his age and gratified by his fame.

Such lives are typically lives of success and greatness, free of tragic struggling, hardships or devastating efforts to suppress one's own nature. Such lives, quiet, unfolding calmly amidst favourable settings, are often found in biographies of the great men of England. Their greatest poet, author of so many plays, lived a quiet uneventful life, rewarded with success and fame even before he died. Much similar lives, lives of step by step rising to wider and wider horizons, were the experience of eminent politicians such as Pitt or Gladstone, thinkers like Ruskin, and even religious reformers, founders of churches, or artists.

Nothing like that will be found in our quarters, where any sensible plan, even one that does not last through a lifetime, will stumble over a host of external and internal barriers. It is hard to imagine two peoples of the Aryan race differing in more ways than the English and the Poles. If you can describe the former as servants of the body, our destiny should be to serve the spirit. Bodies and material things in their development do not nearly go through as vehement tempests as those that break out on the road of the spirit.

Darwin became the epitome of a materially secure, diligent and useful life, the noblest striving of the English people. Such life is all logic and consistency, there is no waste in it, perhaps no ravishment or exuberance, but no unbearable suffering, either. Goethe could not have meant such life with his comment: *Himmelhoch jauchzend, zu Tode betrübt, selig allein ist die Seele,*

die liebt; for everything in such life unfolds in a quiet and orderly manner, as if following a carefully designed project.

How very different is that from the case of Słowacki! An exile and rambler, he constantly roved to new destinations never really getting full satisfaction in his temporary life. He never tasted the sweetness of his own homestead, never arranged a home of his own where he could host guests. He got no appreciation during his lifetime, and even now, sixty years after his death, he remains unknown, for while Darwin's works have been published many times and in numerous translations, Słowacki's writings have never yet appeared in a complete edition and hardly anyone has even heard his name outside Poland.

While Słowacki, like Darwin, followed closely and faithfully his calling – as from his earliest years he was primarily a poet, as Darwin was primarily as natural scientist – in his brief temporary life Słowacki's poetry changed in form and substance much more than did the form and substance of Darwin's works.

Yet these two men, so different in so many ways, had something in common, besides their year of birth. Both devoted the best of their mature lives mostly to studying the question of origin of species and of man, both wrote their most important books on this particular matter, and both embraced Lamarck's transformism to recognise that different species of organic bodies originated from one another in such a way that higher and more perfect species developed straight from beings belonging to lower species.

So, both stood up against the predominant view, supposedly based on the Scriptures, according to which plants and animals were created in a series of acts of a Supreme Being which did that separately for each species, rather than derive one species from another in a natural way.

This popular interpretation of the first chapter of the Books of Moses is entirely unfounded for even in translations there is talk about a gradual appearance of higher and higher organic forms and no word about the manner of their origination. The Hebrew original of the Old Testament, certain writers believe¹, has much deeper meaning and holds mysteries yet unaccounted for. This question should, Fabre d'Olivet held, be discussed solely by those who knew the Hebrew language who might try to explain to us what it meant that man was formed of the dust of the ground. If we imagine the Maker not as a potter moving with his tangible and visible hand the wheel of creation but as an invisible and immaterial ghost who works through invisible powers, then the origin of plants, animals and man from the dust of the ground or, as Moses says, from earth, is not at all at odds with transformist theory.

For ages on end, that naive childish understanding of Moses' words made people imagine mature animals appearing in the world of nature suddenly, and miraculously, for with no intervention by parents; so, those who clung to such manifest miracles felt uncomfortable being told to put up with the invisible

¹ As does in particular Fabre d'Olivet in his excellent study *La langue hébraïque restituée*.

miracle of transformism, which they thought was less persuasive as evidence of Divine might.

Yet transformism is everlasting and no invention of either Słowacki or Darwin. Two contra-positioned schools of Greek philosophy – followers of Democritus the materialist and their opponents among followers of Plato the idealist – were in agreement on this one point: that over hundreds of thousands of years the shapes of animals and plants were changing, with one species originating from another.

Plato considered this idea self-evident to the extent that in his last published work, the *Laws*, he barely mentions it never bothering to adduce any evidence thereof. Next, Epicurus in his philosophical writings assumed gradual changes of forms over many generations as obvious, and Lucretius in *De natura rerum* even discussed details of such transformations. Still later Saint John Chrysostom held that the human species was preceded by beings resembling humans yet not given the faculty of reason.

In 1809, the year of Darwin's birth, Lamarck was publishing his famous *Philosophie zoologique*, a book based on good scientific method in which he quotes huge amounts of evidence gathered by himself to demonstrate the likelihood of transformism, or the natural descent of some species from other ones.

None of that invalidates the idea of action by a higher force, a supernatural power driving such transformations. Yet transformism touched off a dogged fight from clergy of various denominations, as though that idea was potentially a huge threat to faith or the Church. Remarkably, it all broke out only after Darwin came forward with his idea, because Lamarck's transformism had provoked no major discussion. Lamarck's transformism went all but unnoticed for 30 years, while Darwin's theory took just 10 years to get all the world, not just naturalists but theologians, economists and sociologists, alarmed and upset.

The fight against Darwin is in many ways much like the battle for the Copernican system several centuries back. A certain analogy is noticeable between these two naturalists, who each questioned, and proved untrue, long-standing views based on misinterpretations of the Bible yet never disproving the authority of the Scriptures.

Copernicus was the first scientist to humble mankind as he demonstrated that the Earth was not the centre of the universe but just a mote, a second-rate particle in the vastness of far larger worlds. That change in the traditional perception of the position of the Earth in the universe was a lesson of humility to mankind, for, if there are other, bigger and more magnificent, worlds, then it is probable that other, wiser and better, mankinds may exist as well, a likelihood very seriously considered by many in our times, among them the astronomer Flammarion.

Humility is very eminently a Christian virtue, so in that sense the Copernican impact was in no sense against Christ. On the other hand, however, if the Earth is so badly humiliated the miracle of incarnation of God himself in the human form is bound to appear bizarre and faith in this dogma calls for new explanations.

Was Christ incarnating in millions of inhabited planets? Or was the Original sin such exceptional a tragedy in the universe that the incarnation of God was needed on Earth alone?

Either part of this alternative is difficult to comprehend as long as you stand to the traditional interpretation of the Books of Moses, so it is not surprising that the Copernican concept seemed a godless idea to many clergymen and infuriated the Inquisition.

Yet when it turned out to be true, with a mounting body of evidence in its support, and as nobody could find any error of reasoning there, even the most ardent Catholics reconciled themselves to it, and as they realised the modest role Earth had in the universe they even grew in admiration of God's grace shown to mankind through the incarnation of Christ.

It also began to dawn on many that the internal disharmonies, the never-ending tension between the aspirations of the spirit and the desires of the flesh we perceive as natural to human life on Earth, are anything but common in the universe, and so original sin is no fable but a story from very ancient times of a tragedy, a one-off incident in the life of the universe, which disarranged God's order and structure on Earth, eventually creating a situation where individuals and social classes alike are locked in a fight for survival.

This case reinforced the conviction that no theory of nature can really enervate the faith, and even when it seems inimical to the existing faith it can actually energise the spirit to fresh strengths, to stir it to new powerful acts of mind and body. Even after Copernicus the church has had great saints and rather than fall has continued to grow, while renegade sects go on splitting into more and more denominations.

And yet as Darwin propagated Lamarck's transformism and so gave mankind another painful lesson in humility by knocking man off the preeminent pedestal on which it was hoisted by the traditional and insufficient interpretation of the books of Moses, some of the anxiety that was born over the Copernican theory now reappeared, and naturalists again came under fire in the name of theology, with accusations that they are undermining the faith.

Once again, the powers of reason and expression had to be put to great efforts to defend freedom of research against the *odium theologicum*. Monks faithful to the church, such as Le Roy the Dominican or Wasmann the Jesuit, were able to reconcile transformism with theology. A study by Grossman on that very topic was rewarded with a prize by the Catholic theological faculty in Munich, and brilliant poet Fogazzaro devoted a well-written study to the defence of transformism showing that it not only does not topple the Catholic faith but indeed deepens it.

Any natural theory that take us to humility elevate the Christian spirit. The history of religion knows only one case of a worldwide religion prior to Christianity that spread far beyond the boundaries of the country of origin, namely Buddhism.

Buddhism differs from Christianity specifically by that it fosters pride in man telling people that they can reach absolute perfection on their own, with no act of grace by God; but Christian teaching tells us always to rely on Grace and to beseech God for it.

Buddha holds that man is part of God and has at any time what they had earned themselves in previous lives, but Christ teaches that man is a creature of God and always has far more than they deserve for they are the soil, less or more fertile, on which seeds of grace will be sown.

So, in this alternative of religious beliefs, Copernicanism and Darwinism teach us humility and so they confirm the teaching of Christ rather than Buddha, insofar at least as we take from Darwinism what reverberated loudest in the widest stretches of humanity, namely the transformist idea, to which Darwin and Słowacki and Lamarck subscribed, yet which was popularised mostly by Darwin.

Darwinism comprises two other theories which are more difficult to reconcile with Christian doctrine and spirituality than transformism. Darwin did not stop with embracing the transformist proposition, with adducing arguments in support of the view that first specimens of a new species were born of parents still belonging to another species.

To identify the factors behind the transformation of one species to another Darwin pointed to sexual selection and struggle for survival – both essentially material forces – as the causative factors.

These factors are effective, their effectiveness proven at least on the development of variations within one species. The big question is, are these same factors sufficient proof of the development of new species?

A change of a species may be subject to laws other than those the species as such is subject to. Characteristic features of a species may be independent from selection or struggle for survival, even though certain secondary features which are sufficient for variations to develop may still be dependent on such characteristic features. Or else, selection and struggle for survival could bring about a change of species as secondary factors, apart from certain primary factors Darwin may never have taken into consideration.

According to Darwin, his understanding of struggle for survival and selection implies that changes in the particular species undergo gradually and very slowly over centuries, and so Darwin has to accept that many intermediate forms between one species and another.

And Darwinists admit that such intermediate forms between the species have never yet been detected, even while specimens of species existing today have been found in very ancient geological deposits.

This is the point over which Darwin's theory of evolution differs the most from Słowacki's. Słowacki presented his views on transformism more than ten years before Darwin, between 1841 and 1849, in several works, of which his *Genesis from Spirit* [*Genezis z Ducha*] is the most important¹. There is also a *Letter to Rembowski*, with comments to the *Genesis from Spirit*. Other major contributions to transformism are found in Słowacki's later poetic works, such as *Samuel Zborowski*, *Zawisza Czarny*, *The Spirit King*, or the posthumous parts of *Beniowski*. Except for the *Genesis from Spirit*, none of those titles have yet been published in critical editions.

¹ Edited by W. Lutosławski in Cracow, 1903.

To find the particular works of that epoch you have to search for them in various publications some of them unavailable from booksellers, and that explains why few people in Poland realise the enormous scientific implications of Słowacki's correct insights, his naturalist intuition.

To most audiences Słowacki is a name only of prior to 1840, as the author of *In Switzerland* or *Kordian*. The writer of *The Spirit King*, however, is entirely a different character, a sage like few others in the history of mankind, a prophet and inspired poet, and a patient explorer of the secrets of nature.

His research method is completely different from Darwin's, but it does not deserve to be discarded, for Słowacki could, if he wished, use Darwin's method, whereas Darwin would never be able to use Słowacki's method.

Darwin sees, hears, perceives, with his senses. Słowacki shuts his eyes and ears, to contemplate in his spirit the matter that has caught his attention before.

So, by such clairvoyance of things past arrives at the perception that new species used to appear abruptly, that first specimens of a new species sprang off parents still very different, with no intermediary form, with no gradual change.

Scientific research in recent years bear out Słowacki's view, as no confirmation has been found that Darwin's theory is correct – for such intermediary forms, if they ever existed at all, have perished, as nobody has found any. Many eminent naturalists, not only before Lamarck, to name but Linné or Cuvier, but after Darwin as well, such as Agassiz or Virchow, stood by the idea of natural invariability of species. Agassiz subscribes to transformism yet he demands in every new species an act of creative will of God, which finds expression in the embryo of a new creature.

According to Agassiz, and in keeping with what Słowacki believed, change occurs in the egg, and any offspring breaking out from the egg is already different from its parents.

This contrast of views could perhaps be explained with the opposite replies Darwin and Słowacki would have given to the children's riddle of which was the first, the hen? Or the egg?

According to Darwin, the hen first broke out of an egg, which was not yet a hen's egg but very close to one. According to Słowacki, the first hen's egg was laid by a bird that was not quite a hen and it was only that egg from which the first hen broke out and that hen then laid a true hen's egg and it never had, even among its most distant relations, any type even remotely similar to its own parents.

The abruptness of changes, the sudden emergence of a new species, was confirmed in experiments professors Loeb and Jaffa carried out in California, and de Vries* in Holland. Should it turn out one day that Słowacki was right that new forms appear suddenly, and not, as Darwin thought, gradually, through many intermediate stages, then the explanation given by Słowacki will deserve special attention from thinkers.

* Hugo Marie de Vries (1848–1935), Dutch botanist, rediscovered the laws of heredity (after Mendel, whose work remained unknown through to the early 20th century). In 1901, in a series of experiments he demonstrated the occurrence of suddenly appearing variations in plants, which he recognized as significant enough to lead up to the emergence of a new species. He named such variations *mutations* and introduced this term in biology.

At first sight such sudden appearance of a new form seems very unlikely, even though we already know of a similar development in a radically different respect. When you try to ponder possible forms of polygons and try to derive one from another, you find no intermediate form between the triangle and the quadrangle. Even the tiniest, infinitesimally small, side, when added to a triangle, makes it a quadrangle, and no thing intermediate is conceivable there nor can the possibility of an intermediate form be imagined.

If a form so simple, a form composed merely of sides and angles, can lead up to a definite number of types only, with no intermediate form at all thinkable, then various forms of organisms, with more features, are even more likely to develop definite combinations of such features, without any intermediate forms at all.

Furthermore there is a possibility that certain features appear or vanish suddenly and these features correspond to the difference between species, while other features may change gradually and generate variations inside one and the same species.

Imagine, say, a series of figures of different colours in shapes of simple geometric polygons transforming one into another. As long as that changes affect colour or size, change can unfold gradually, for there are many intermediary shades that gradually pass into one another between the two colours. Similarly, there are an infinite number of intermediary sizes, which may be infinitesimally similar to one another, between two sizes. These are features corresponding to variations inside one species and these may change gradually, passing through innumerable intermediary degrees that are closely similar to one another.

But as soon as a single side, however small, is added to any one of such figures, the change that ensues is a sudden one, as a new species emerges with no intermediary form at all. Where such change in a species is accompanied by secondary and continuous transformations, which catch the eye, a hasty beholder may draw the superficial conclusion that all change is continuous, gradual, and that it unfolds through intermediary forms.

For this case to highlight the essential relation of the Darwin's theory to Słowacki's let us suppose that certain changes in size or colour may be caused by a certain kind of external factors and that such changes unfold gradually. Further, suppose that what in that perception are fundamental changes, which involve the increasing in number of sides or angles of figures, depend not on such factors but result from completely different causes.

Should in that particular structure occur a glaring change in colour at the same time as the triangle was changed to a quadrangle with one very tiny insignificant side, the hasty beholder is more likely to take notice of the change in colour than of the all but imperceptible fourth side of the quadrangle, and so to take colour, rather than number of sides, as the feature specifying the species, next class colours that are most closely similar as variations of one species, and identify a change of species where following a succession of intermediary shades colours an entirely new colour ensues.

In such case, Darwin would be on the side of those beholders who focus on the eye-catching colour, even though colour is but a secondary feature,

while Słowacki would not be impressed by the appearance of colour but would put the main emphasis on the change of sides as the feature which, while less susceptible to sensory perception, is indicative of deeper and more fundamental differences in the structure of bodies.

Let us further imagine those polygonal figures, at first changing only in size but not in colour or shape, then, following many changes in size, changing their colour, and eventually, following many changes of colour, changing their form, that is, the number of sides. In that case, change of colour could be considered equivalent to change in size or shape, if we failed to notice the difference that exists between colour and shape, as colour may undergo changes gradually, through an infinite succession of intermediate shades, while shape is a feature that in that case changes suddenly and admits of no intermediate form. Darwin will see such changes only that are changes in colour and size. Słowacki does not think much of that kind of changes, but instead he seeks changes that are changes of form and holds such changes to be features of new species.

Apart from size, colour, shape, there may be further features that correspond to functions of organisms, for instance bisexuality or monosexuality, of which it is clearly known that one or the other exist, yet nothing in between is imaginable. Features that are geometrically defined in space are not the ones marked by the peculiar quality that they either exist or do not exist.

Another question presents itself, if you try to say how many features need to be identified for a species to be recognised as having emerged as a new species. Many experiments would have to be carried to arrive at a conclusive answer. But if Słowacki is right, then geometric features of shapes all depend on invisible features of the spirit. Thus, if the first man acquired in spirit even the slightest ability to reason such as his parents did not have, then from that feature of the spirit could have resulted the upright position in man, and speech, and many other features such as can be perceived by the senses.

Słowacki argues that a new species appears only when a self, up to a point existing in a lower form, begins to desire a new feature and is given it by God. So, every new species would be created by God in the soul of such self, which outwardly would then appear in a new shape.

The same selves carry out the work of forms on Earth for ages. We, us, are now at the peak of creation, we that once brought every new thing to the world – the first diamond, as well as the first rose, as well as the first snake.

As that first snake hissed, by doing that it made a huge discovery from which its distant descendants – in what was already human shape – derived the ability to sing.

The selves that at a lower level by creative impulses and by a yearning for perfection introduced new forms, the same selves now at the highest level display their creative drive in a different direction.

So, a great genius among men had a different past than an idiot. The same self that first ordered carbon particles into the shape of diamond, acquired at a higher level some other new force, starting a new succession of forms, the very same self, the spirit of The Word, today wields a human body, and shines with the light of genius.

The apparent outward monotony of human forms is a result of external necessities, yet under it an infinite multiplicity of forgotten histories of human selves is hidden.

Each self incarnated over millions of years in many different shapes, with the succession of such forms being prescribed by no absolute rule but depending on the deepest essential meaning of such self.

The order of forms of ancestors man originates from is not identical for all humans, either. Certain humans may have had among their ancestors species other never had. Along such different ways the creative selves of the Earth unfolded towards human forms, while other selves produced highly organised societies of ants or bees.

This goes to show that Słowacki opens us to wider horizons than does Darwin, and he leaves more room to the free creative will of the spirit, according less significance to external material conditions.

The difference between the views of Darwin and Słowacki is fundamental. Darwin is on the watch-out for external features and seeks external factors that cause changes. Natural selection is the conjunction of parents similar to each other who pass on what they have in common to their offspring. Struggle for survival is the mechanical elimination of individuals that lack certain features. Certain features survive and pass onto the offspring because they turned out useful in external fights against other contestants or in winning individuals of the other sex.

There is no talk there of spiritual changes, sudden changes undertaken by selves. Indeed, in Darwin's theory spirituality develops under the effect of external material conditions. Słowacki, on the other hand, feels spirituality is ultimately the driving force of any transformation in external material conditions and shapes. In Darwin, genesis is one of flesh, as in Słowacki genesis is genesis from Spirit. Słowacki considered the book he wrote under this title, *with the power of reason put to sleep*, the most important of his works.

All human individuals, Słowacki believed, have behind them millions of temporarily forgotten experiences which contributed to directing the course of development to their present shapes and aptitudes. What a man is, is a composite result not only of a long succession of ancestors going back to the beginnings of organic life on Earth, a succession which is different for each individual, but also, and more importantly, the present state of an individual is an outcome of experiences of the self in different bodies, with the order of incarnations not necessarily identical to the order of forms represented by the string of ancestors.

Yet even with this immense heritage of the flesh and the hidden memory of spirit, every self in every body has now, more than ever, the power of creative will and so they may any time plead with God for a new change, a new opening of new ways, still in their old body forms but already preparing for incarnation in a form that is adequate to the change of spirit.

So histories of bodies, Słowacki believes, do not depend, as in Darwin, on external conditions only, but they are generally an expression of the history of the creative spirit, and that is why in Słowacki psychology actually precedes

biology: his biology cannot be understood without understanding his psychology.

Słowacki's views find unexpectedly confirmation in latest work by the eminent French thinker Henri Bergson, a reader in philosophy at the Collège de France in Paris.

Bergson has a Polish Jewish family background, and while he does not know Słowacki, when reading his brilliant book you get a feeling that he may have absorbed, mysteriously and unawares, from his ancestors, some of the Polish spirit, the same spirit that vitalised Słowacki's ancestors and that Słowacki himself best articulated.

In his recent book, *Evolution créatrice*, Henri Bergson convincingly shows that causality, and even finality, are not sufficient to explain the development of the universe.

What is also needed is, beyond and above that, a creative force, a Divine force, which drives the world not so much according to a preconceived plan or to a predetermined end as in constant communication with living creative selves, answering their needs or aspirations, inspiring them, subsisting in the entirety of Being in its countless manifestations.

New forms emerge, not so much as means leading up to ends, not so much as effects of certain causes, but as belonging to the creative harmony of all life, of which they are part manifestations.

It is in that entirety of life that every human self acts and every self, even the lowest one, always acts in a mysterious relationship with the supreme self. Creation is the life of the world, a standing never-ending miracle, overstepping boundaries, never leading up to any one specific end, for such end, fully self-sufficient, is contained in every moment of life.

Here Bergson can be seen as if inspired by Słowacki's spirit, as he unfolds before the human mind horizons in which natural selection and struggle for survival are barely second-rate incidents.

You have to re-read Bergson several times, and Słowacki's later works, to realise how close a spiritual kinship that descendant of Polish Jews had to the descendant of Polish knights.

Sometimes prophetic intuition may bear fruit before painstaking intellectual efforts to examine hypotheses that may flare up suddenly in an experience of clairvoyance. Słowacki's hypotheses can only be validated at a huge cost of research effort into the history of the Earth, and in experiments on possible future developments of organisms.

What have to be undertaken are large scale experiments in the line of trials the eminent gardener Burbank* has carried on in California with a view to transforming variations and species. However, Burbank bases his work on natural selection alone, with struggle for survival banned from his work as he extends great care to the plants he so loves.

* Luther Burbank (1849–1926), American agronomist, developed something like 800 new varieties of plants. Famous for his research on hybridization and a huge number of experiments (he worked on something like 30 thousand plant varieties).

A Polish naturalist who would like to verify Słowacki's views would have to rule out natural selection as well, and act bravely with the spirit and prayer on selves of plants or animals he might grow, to call forth in them those wondrous and sudden spiritual changes that Diotima mentions to Plato in the *Symposion* as she uses the magical words: *exajfnes katopsetai* (*Symposion* 210e: *suddenly he will have revealed to him*).

That is talk of a spiritual change that will spawn countless material changes. If matter is an expression of spirit, and spirit is not an efflorescence of matter, then change may be touched off by spiritual effects, with no part therein of natural selection or struggle for survival.

A Polish Burbank would pin his greatest hopes not on those plants becoming starting-points of new species that would achieve precedence in the struggle for survival or would become the most attractive to the individuals of the opposite sex in natural selection. Such well-balanced, strong, materially vital individuals would at best serve the purpose of producing variations, but they would be incapable of calling to life a new species, for they are just too comfortable in the shapes they have.

We would look primarily to individuals that are impaired physically, imbalanced, nervous at higher levels of organisation, and so yearning for a higher form all the more as they are unhappy with the form they have.

As we eliminate for experimental purposes the effects of material factors, which do have certain effects in the normal course of things, we could introduce what is already known to mankind organised at higher levels as fasting and mortification. The way a seed, which is in danger of rotting in humid soil, sprouts and brings forth a new plant, a species left in the toughest physical conditions could in a very similar manner be welcome ground for acts of spirit.

Such spiritual acts could be of two kinds: prayer to higher spirits to ask them for succour, or human selves acting directly upon fauna or flora selves.

In either case, the effects of selection and struggle for survival could be reduced to a minimum and thus the superiority proven of spirit over matter, a purpose Słowacki served faithfully in the last years of life.

Details of such experiments, which are of epochal significance to humanity, cannot be described ahead of the fact, because the experimenter would have to follow a different method than evolutionists such as Darwin. Such experiments would also be driven by different motives. The aim of such experimenting would not be merely to broaden our scientific knowledge, but to furnish empirical evidence of religious dogma, which to Słowacki formulates in his proposition that *everything is created by, and for, the Spirit, and nothing exists for a bodily end*.

Whoever would like to seek God on that way, would have to submit their experiments to Divine inspiration and to secure help from people of ardent faith who are keen to see spirit-driven knowledge finally prevail among the people over materialistic sophistry. Such effort is worth undertaking, if it gives us an opportunity to shake off the shackles of determinism that usually fetter Darwinists, to get a rational argument in support of axioms of creative will such as were revealed to us in prophetic poet's own intuitive insights.

The works of Darwin are going to stay for ever as a treasury of experiences and observations, its main merit being that a materialistic age he discovered convincing, albeit still insufficient, materialist arguments in support of the theory of transformism, which is not a materialistic theory at all. Without Darwin, transformism would not have become a common idea familiar to all; as its recognition worldwide was necessary for humanity to make strident accomplishments not only in natural science but also social science, even theology, insofar as transformism makes it easier for us to grasp the idea of God.

Darwin had a powerful effect on the entire body of modern views of the world and it spread transformism in a way neither Lamarck nor Słowacki ever did.

But Darwin's theory of struggle for survival and selection provide only a temporary scaffolding for the construction of a great and magnificent edifice of knowledge about the history of life on Earth and its future directions.

When the building has been completed the scaffolding will no longer be used and then Słowacki is no longer going to look like one more forerunner of Darwin. In fact, Darwin will then appear mainly as a great populariser of the views of Lamarck and Słowacki.

Before that happens, however, Darwin's followers in Poland should get to know Słowacki more closely and try to find ways of checking Słowacki's supreme biological hypothesis, which is that a new species appears suddenly and without intermediary forms. Experiments undertaken for that purpose should comprise, if we are to follow the prophetic poet's advice, consideration not just of biological but of spiritual factors as well, but what is needed there is not just knowledge as such but ardent faith too.

Bravery and perseverance and very strong faith are required where the power of will and faith is to be applied to act on a chain of organic forms until a new element has appeared in it. That is where the psychologist of religion must collaborate with the naturalist. Such psychological experiences would be the only adequate reflection of Słowacki's creative thinking.

Religious experiences have begun to be submitted to scientific research in other respects. William James¹ was the first one to prove with all rigours of scientific method that prayer in respect of a man's social needs is effectual.

It is only through the application of prayer that Słowacki's evolution theory can be put to the test of truth. Unfortunately most of those who pray do not believe in evolution, and most Darwinists would not bother to pray.

A broader perspective is needed for a man to see, at long last, that your devotee saying the rosary all the day long is not narrow-minded compared to your determinist naturalist whose beads are his eternal iterations of inversely used watchwords of *struggle for survival*, *selection*, or *suggestion*.

The way struggle for survival or selection are not the all-decisive factors in the world of external factors, suggestion alone is certainly not a sufficient explanation accounting for all that may occur between spirits.

¹ In his *Varieties of religious experience*, translated into French as *L'expérience religieuse*.

Suggestion is taken to mean an imposition of the will of a stronger self on a weaker self. But there is no need for a stronger force to be aggressive in its operation and it may be applied in order to support the weaker self in its action, imposing nothing, to set it free of its limitations that hold it back in development. Prayer is neither suggestion nor autosuggestion, but only the drawing of strength from a higher self to help push forward aspirations of a self that happens to be on a lower level of development. Every self, at any level, holds in it a creative power which can be set free – this, in a nutshell, is the quintessence of the gospel of Słowacki, the sacred wisdom of the Nation that *everything is created by, and for, the Spirit, and nothing exists for a bodily end.*

transl. by Z. Nierada

Wincenty Lutosławski's article *Darwin and Słowacki* is a first ever study of Słowacki's view of transformism. It is also an interesting presentation of the relationship of Darwinism with a view to French pre-Darwinian transformism and to Christianity. Lutosławski takes into account both studies by naturalists and reflections of philosophers. He shows the putative conflict between evolutionism and Christian views about nature is baseless and seeming, and one that follows only from misinterpretations of Darwin's writings. (Lutosławski presents thinkers reconciling these two currents, e.g. Le Roy, Wasman.)

It is significant that Lutosławski notices the weakness of what is going to be called Darwinian gradualism, which only explains the mechanism of development of forms and species belonging to the same taxonomic groups but does not explain significant changes assumed to lead up to the emergence of reptiles, mammals etc. It was their attitudes to gradualism that, according to Lutosławski, accounted for the different views of evolution by Darwin and Słowacki. Lutosławski underlines that the poetry voiced his views more than 10 years before Darwin did.

Lutosławski thought Słowacki's transformism could bridge the gap. If adopted, Słowacki's interpretation could, Lutosławski believed, contribute to the understanding of mechanisms of evolution. It is to be noted that what Lutosławski proposed as an interpretation of Słowacki's ideas is among the first attempts – years before Richard Goldschmidt's *hopeful monsters* theory or Stephen Jay Gould's punctuated equilibrium theory of the 1970s to 1980s. Lutosławski's *Darwin and Słowacki* is thus not only one of the first interdisciplinary texts to link poetry with natural science, but a major contribution to reflections on evolutionary theory at the turn of the 19th to 20th centuries.

Lutosławski makes a curious mention on the history of this text, which was first rejected, and subsequently lost, by the editors. Perhaps that attempt of his to reconcile poetry, mysticism and Christian thought was why the text *Darwin and Słowacki* may have right from the start been branded as *politically incorrect* and therefore marginalized. If that was the case, the views expounded in the article deserve now to be recalled and published in English.

Piotr Daszkiewicz