

George Ellett Coghill and the Alexander Technique

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George Ellett Coghill was a developmental biologist. His special area of study was the early development of a small American newt known to biologists as amblystoma.

He first heard of the Alexander Technique (AT) in 1939 when he was already a seriously ill man. He was immediately struck by the fact that Alexander, via a completely different route, had come to conclusions that he believed were startlingly similar to his own. He met and worked with Alexander over a weekend and as a result wrote an Appreciation for Alexander's book *Constructive conscious control of the individual*.

Coghill's direct involvement with the AT was thus relatively minor. Alexander was, of course, pleased with Coghill's support but there is no evidence that his work had any significant effect on Alexander's thinking. The interesting question is why Coghill, having spent the greater part of his working life investigating the early development of amblystoma was so convinced his findings supported those of Alexander.

To understand this it is necessary to know that it was not just the early development of amblystoma that interested Coghill but how this related to the behaviour of the mature creature – and ultimately what this revealed about the behaviour of human adults. From an early age he saw his life's work as an attempt to investigate *...the fundamental principles of psychology – the nature and interrelation of sensation, perception and thought*.¹

He came upon Alexander when the bulk of his research had been completed and his mind was turning to the big question of what it all meant. He died before he was able to produce his final synthesis and it is debatable whether it was even possible within the terms he envisaged. But the body of his work, particularly some of his later papers, the detailed biography by his close friend and colleague, C. Judson Herrick, and the *Appreciation* he contributed to Alexander's book remain a fruitful source of ideas for those interested in Coghill's contribution to the scientific underpinnings of the AT.

A difficult life

Life was never easy for Coghill. His own temperament and behaviour contributed significantly to his difficulties but were probably essential to his scientific achievements.

He was born in Illinois in 1872 and grew up as a sensitive and intelligent boy in a poor farming family. Religion was an important part of community life and he thought he wanted to become a Baptist preacher. In preparation for that he undertook a degree course at Brown University in Providence, Rhode Island, with the funding provided by his mother, and obtained an arts degree in 1896. He then transferred to a theological college where he found increasing difficulty reconciling the dogmatism of his teachers with his own inquiring attitudes. He had a crisis of conscience when he asked one of the teachers what he thought was a reasonable

¹ Coghill (1929)v

question. The teacher became extremely angry with him and told him that to question the Bible was to insult the Lord.²

It was too much for Coghill and he left the theological college after six months and had a fundamental think about what he wanted to do with his life. He rather ambitiously decided that he wanted to carry out

*...a systematic investigation of the natural history of the human mind by application of scientific method to psychological problems, with the hope of ultimately reaching a satisfying naturalistic philosophy.*³

Throughout his life, Coghill was nothing if not thorough – not say obsessive. In order to carry out this study, he felt he needed to know a great more than he did about the human brain and nervous system. He therefore began to study for a primary degree in biology at the University of New Mexico where the newly appointed President, Clarence Luther Herrick, turned out to be a major source of support and encouragement. Coghill was an apt student and was soon employed as an instructor at the University. He gained an MSc degree and was appointed assistant professor of biology. During this time he was also a cornet player which led to him falling in love and marrying his accompanist Muriel Anderson in 1900. She was a loyal co-operator in Coghill's enterprises over the years.

He then won a fellowship that enabled him to return to Brown University to work for a PhD. While there, he took courses in anatomy as well as psychology and philosophy and began the research for his PhD dissertation on the cranial nerves of amblystoma. During this time and throughout his whole working life, he read widely and thoughtfully.⁴ The philosopher John Dewey, who had such an important role in promoting Alexander's work, was one of the authors who influenced his thinking.⁵

He was awarded his doctorate in 1902 and found ill-paid employment for the next four years in an impoverished college of the Pacific University in Oregon. He then worked for a year at another small university in Oregon, following which he was appointed Professor of Zoology in Denison University in Ohio in 1907 though again the position was poorly paid.

When the Coghill family, which by now included three little boys, got to Denison there was no suitable accommodation available. Coghill, ever-determined in looking after his family and ingenious in making the best of the circumstances in which he found himself, bought a plot of land that sloped away from the road, and to the consternation of the neighbours, built an upside-down house, with the living rooms under the roof at the street entrance and stairs down to the bedrooms; he also developed a vacuum cleaner system with a centralised suction motor and pipes to all the rooms. Though he had a hugely heavy teaching load he also doggedly continued his research. Some of this was on opossums but the bulk of his interest then and for the rest of his career was in amblystoma.

Given his broader ambitions, it might be wondered why Coghill chose such a simple creature as amblystoma as the focus of his research. As he explained himself, it was a readily available and extremely simple form of vertebrate life which could be collected from the wild in various parts of the United States and

² Herrick (1949)p15

³ Ibid.18

⁴ Ibid.168

⁵ Ibid.168

...there is probably no other animal that offers better advantages than Amblystoma presents for the search after general principles of behaviour and nervous function in the vertebrates.⁶

Despite the various pressures on his time and the scarcity of laboratory resources, he still managed to publish his research results and speak at scientific conferences and word about the quality of his work began to circulate in the scientific community. He also maintained a long-term association with the *Journal of Comparative Neurology* which is still published. Coghill contributed his first paper in 1898 and remained associated with journal for the rest of his life, serving as managing editor for the period 1927-33.⁷

In 1913 he was able to obtain the position of associate Professor of Anatomy in the University of Kansas. Again the salary was small and to supplement his income he bought a tract of land near his laboratory on which he kept some cows. With the help of two of his boys, he managed to run the farm for four years until he was appointed to a full professorship.

He was promoted to Head of the Department of Anatomy in 1916 and seems to have been a formidable presence. One of his students wrote later

...he impressed his students with his seriousness and absolute intolerance of laziness or foolishness. His quiet steps, his sober demeanour, his stern and penetrating look always caused a calm to fall over the laboratory full of students.⁸

In 1922, he took leave of absence from Kansas to carry out his most famous set of experiments. The work, which was carried out in the University of Chicago, consisted of an extremely detailed study of the development of the nervous system in amblystoma from the time they hatched out of their eggs until they had reached the stage of being able to swim. The observational team was led by Coghill himself with some assistants, among whom was his future biographer C. Judson Herrick, the younger brother of his earlier mentor in the University of New Mexico.

In the experiments, thirty specimens of newly hatched amblystoma each in a separate dish of nutrients were set in a circle on a round table. There was an overhead microscope which could be swung around from dish to dish. Looking through the microscope, the researchers made notes on the state of each of the growing specimens, and how they responded to tactile stimuli, generally applied by stroking them gently with a human hair. They then swung the microscope on the next dish and repeated the observations. It took about 15 minutes to go round the whole thirty specimens on the table. This was then repeated day and night until the newly hatched amblystoma had reached the stage of actually swimming, which occurred about 60 hours after hatching. They did four sets of these experiments.⁹

Herrick, who was to become a close friend, colleague and supporter of Coghill, recalled:

For many years thereafter the floor of this room was marked by a circle worn by the feet of these indefatigable workers. Day after day and night

⁶ Coghill (1929)5

⁷ Herrick (1949)p44

⁸ Ibid.p33

⁹ Ibid.p34

*after night this dreary round of careful testing and close observation under the microscope continued without interruption.*¹⁰

This exercise provided Coghill with solid detailed information on the early development of motility, the capacity for movement, in these little creatures. At the same time, by dissecting control specimens at a similar stage of development to those being examined in the nutrient dishes, he could establish how the observed changes in the capacity for movement were related to the development of the nervous system. The end result of all the work was that he had an extraordinarily detailed knowledge of how the neuromuscular system of the amblystoma developed in the early stages of its life.

At a practical level, given the available equipment of the time this was a seriously difficult undertaking. The newly hatched amblystoma is only about 3 mm (just over a tenth of an inch) long and is 7 mm long when it begins to swim. Establishing the exact state of its brain and nervous system at each developmental stage required some very delicate dissection work. By any normal standards, the whole enterprise was obsessive in its thoroughness but Coghill knew what he was after and this was the way to get it.

In addition to his experimental work and his teaching duties, Coghill maintained his interest in psychology, collaborating on seminars and courses with colleagues in other departments in Kansas University and in Ohio State University. In 1925 he was appointed Professor of Comparative Anatomy at the Wistar Institute – a long-established medical research centre in Philadelphia. By then he was aged fifty four. It was the first time he was financially secure and he was also free of teaching duties.

His scientific reputation was spreading and he received a variety of honorary degrees and awards. He gave a set of three lectures in University College London in 1928 and these, together with a preface by Coghill, were published in book form the following year as *Anatomy and the problem of behaviour*. This generated considerable scientific interest and contributed to his international reputation. The Wistar Institute was proud of its new star and ambitious plans were made to expand his laboratory and the scope of his research. There were also plans to create links with leading research centres creating a role for the Wistar Institute as an “*international clearing house and reference center.*”¹¹

Then things started to go badly wrong. Coghill’s health was deteriorating and he had already suffered a number of heart attacks. Work on his new laboratory ran into serious construction problems. In 1931, he and the Director of the Institute had a major falling out. It was a conflict between similarly inflexible personalities. Coghill’s scientific success was largely a result of his single-minded determination in pursuit of his objectives. The problem was that the Director of the Wistar Institute had exactly the same temperament; neither was capable of compromise.

After his row with the Director, Coghill was more or less ostracised in the Institute and was refused any further research funding and assistance. But although he had to do everything himself he continued with his research. Then he had a major heart attack. In 1935, when he was making a recovery from that and was beginning to get back into his research work, he went on holiday. While on holiday, he was told he had been sacked from the Wistar Institute and his salary was stopped. He was sixty-three

¹⁰ Ibid.p35

¹¹ Herrick (1942)p48

at the time. His wife asked that a member of the family should be allowed to go to his laboratory and sort out his papers but they were dumped at his home.

Because of his poor health, he was medically advised to move to a better climate and he retired to Gainesville in Florida where he used a small inheritance to buy about 20 acres (8 ha) of farmland near the University of Florida. Because of his scientific reputation, he managed to get a small research grant and he built himself a house and a laboratory. Although he had no official connection with the University, some of the students used to walk the three miles to his farm, carrying their microscopes to examine his slides and "*absorb something of his philosophy.*"¹²

His daughter Muriel went to live with him but his wife stayed in Pennsylvania. He patched things up to a certain extent with the Wistar Institute and they agreed to lend him papers and research material that had been prepared under his direction.

After all the troubles he had been through, Coghill had a peaceful and productive time in Gainesville. He got the farm working and trebled it in size so that he could earn an income from it. He managed a substantial amount of research, moving from amblystoma back to the study of opossums which he had begun in Ohio, and produced a number of papers on them. As his biographer Judson Herrick said of his response to the way he had been treated by the Wistar Institute "*He came out of the unequal contest crippled but victorious.*"¹³ But Herrick goes on to say that the consequences for the reputation and research programme of the Wistar Institute were "*disastrous*". It now operates as a cancer-research centre but there is no mention of Coghill in any of its on-line archives. He has apparently been written out of its history.

During the six years he spent in Gainesville, Coghill's health steadily deteriorated. He suffered increasingly from arthritis and heart problems and withdrew from public engagements. He suffered a severe heart attack in June 1941 and a month later, on 23 July 1941, he suffered another, this time a fatal one. He was sixty nine years old.

Coghill's scientific work

In looking at Coghill's scientific output, it is essential to bear in mind his broader ambitions. All through his years of research on the tiny amblystoma he was thinking of how what he was learning fitted into the big picture he was assembling. That big picture was about behaviour. In the sense used by Coghill, behaviour has none of the moral connotations it has in popular use when people talk of good or bad behaviour. It is simply the way a creature goes about doing what it does, how it uses itself in the activities of its daily life.

Coghill wanted to know how behaviour develops in an animal. He talked of

*...my curiosity about the question of how the behaviour of vertebrates comes to be what it is in adult life.*¹⁴

In the introduction to his book *Anatomy and the problem of behaviour* he said:

*It seemed to me basic to a scientific study of behaviour to know whether the behaviour pattern of an animal develops haphazard or in an orderly manner;*¹⁵

¹² Herrick (1949)p69

¹³ Herrick (1942)p57

¹⁴ Herrick (1949)p 78

¹⁵ Coghill (1929)vi

and goes on to say:

...and that, if it should be found that behaviour develops in an orderly manner, then there should be a corresponding order of development structurally and functionally in the nervous system.¹⁶

He thus wanted to know if the various neuromuscular capabilities that a creature acquires in the initial stages of its growth developed separately, subsequently coming under central control, or are under central control from the beginning so that they develop, as he said, in an orderly manner. In the case of a human infant the question would be whether the movements of the limbs are initially random, gradually coming under central control, or are part of an orderly pattern from the beginning.

His conclusion was that the development of behaviour is not haphazard or random but rather that:

Behaviour develops from the beginning through the progressive expansion of a perfectly integrated total pattern and the individuation within it of partial patterns which acquire various degrees of discreteness.¹⁷

His original question had been about how does behaviour develop. His answer was that the organisational pattern for it is there from the beginning. Probably this would now be described by saying that behaviour is genetically determined but Coghill was also interested in something broader and more dynamic. He wanted to understand how this innate organisational pattern comes to be realised in the muscular and neurological development of the creature.

Coghill was particularly struck by the fact that in the early stages of a creature's growth, the neurological structures required for its characteristic behaviour emerge before the necessary muscular equipment for its realisation has fully developed. He described this advance development of the nervous system as "*forward reference*" saying that at any given stage in a creature's early growth there is an "*overgrowth of neural mechanisms beyond the capacity of the animal to express their full nervous potential in behaviour.*"¹⁸ Because of this neurological overgrowth the developing creature becomes able to do new and different things as its muscular development proceeds. Even the simple little amblystoma, as its muscular system develops, has the necessary neurological capacity to respond in new ways to an increasing range of stimuli.

The more complex the creature, the wider the range of potential behaviour its neurological overgrowth makes possible. This means that a cat, for example, is able to behave very differently depending on the environment in which it develops. In the wild, for example, it grows into the capacity to do what is necessary to find food, protect and reproduce itself. But if it grows up in a cat-loving family, is neutered by the vet, is equipped with a collar and a bell, and a magnetic key to the cat-flap, it has the capacity, by utilising its neurological overgrowth in a different way, to develop a totally different pattern of behaviour – acting like it is the boss of the house, for example.

¹⁶ Ibid.vi

¹⁷ Ibid.38

¹⁸ Ibid.92

These different patterns of behaviour are ultimately constrained by each animal's total pattern but within this there is freedom to exploit its neurological overgrowth in different ways. The way Coghill expressed it is that the organism

...grows according to its own intrinsic pattern. Within the limitation of this intrinsic pattern of growth it is autonomous both in its reaction to its environment and its action upon its environment; and in this autonomy is the natural source of initiative or freedom in behaviour...¹⁹

In this interpretation, the animal is free to behave in certain ways because it has the neuromusculature to do so but is equally constrained by its particular total pattern. This, of course, applies to humans no less than other animals and is a philosophically interesting way of looking at the development of human behaviour. As Coghill puts it:

...man is, indeed, a mechanism, but he is a mechanism which, within his limitations of life, sensitivity and growth, is creating and operating himself.²⁰

Coghill saw this as shedding as providing an insight into the perennial philosophical question of the meaning of human freedom or free will. He did not resolve it but he shed his own particular light upon it. His view was that increased freedom emerges from the processes of growth and neurological overgrowth. Human beings are free to exploit their neurological overgrowth in a variety of ways but within the limits imposed by their innate total pattern. He says that in this view of human behaviour

... as a dynamic system may be found, I believe, a natural basis for the interpretation of reflexes and instincts, and for that individual initiative, autonomy or freedom which appears to be essential to psychology and sociology as sciences.²¹

Coghill's use of the term "reflex" needs to be noted. In the scientific literature, no less than common usage, it is used in a wide variety of senses. In his seminal book *The Integrative action of the nervous system*, Sherrington was emphatically clear what he meant by reflex and he distinguished it clearly from habit. He said:

Habit is always acquired behaviour, reflex behaviour is always inherent and innately given. Habit is not to be confounded with reflex action.²²

In many subsequent authors, including Coghill, the distinction is not so clearly drawn and the term reflex often refers to learned muscular capabilities which have become habitual. The semantics are irrelevant; the important point is to be clear what is meant in any particular context.

Individuation

Coghill pointed out that the freedom of behavioural manoeuvre within the total pattern involved a necessary tension between the individual body parts and the integrity of the organism as a whole. He used the term *individuation* to describe the emergence of the ability to use particular body parts in a purposeful and independent way without compromising or damaging the behaviour of the whole organism. This is a delicately balanced process which is easily interfered with or distorted.

¹⁹ Herrick (1949)222

²⁰ Ibid.222

²¹ Ibid.p222

²² Sherrington (1906)pxvi

Everyday examples of an imperfect balance between the whole and the parts are easy to find. Some people cannot sign their names without tightening their jaws; others sit in a rigid twisted pose when they are using a computer; some car drivers hold on to the steering wheel as though it were in danger of escaping from them; brushing the teeth is an exercise which for many involves the thighs and buttocks; and so on. In all such cases the individual movements required to carry out the action are overlain by a series of unnecessary or parasitic muscle actions thus consuming unnecessary energy and interfering with the performance of the action.

The simpler the animal, the easier it is for it to separate the actions of the whole and the parts; it is unlikely amblystoma furrows its brow as it moves its limbs in the correct order for swimming. In humans, where habit can distort the natural functioning of the body and its parts, the task of achieving the optimum balance or relationship between the whole and the parts is much harder and more rarely achieved. As Coghill put it:

*But since the parts are constantly struggling to maintain their individuality, and since they return under the dominance of the total pattern only through the reversibility of individuation, those periods of perfect integration of the organism-as-a-whole probably are ordinarily brief in most individuals.*²³

Rare though such moments of complete harmony may be, Coghill nevertheless believed that a proper balance between the functioning of the parts and the totality was fundamental to the health of the organism, particularly in the case of human beings. He says:

*This variable and relative dominance of the organism-as-a-whole over its parts is the key to psychosomatic medicine. The relationship is real and physiological, not imaginary and vitalistic or spiritualistic.*²⁴

If the balance goes wrong, the degree of freedom of the parts

*...may become so great that it interferes with the welfare of the individual-as-a-whole. In that case it is pathological. This pathological condition may vary in scope from secretory and contractile reflexes to the personality of the individual. But as long as the individual-as-a-whole can prevail over the forces of individuation, a normal pattern of health and behaviour can be re-established. In this capacity the organism-as-a-whole is supreme.*²⁵

One of the key capabilities required for the achievement of the proper balance between the whole and the parts is the ability to inhibit the action of body parts when necessary. This applies to every neuromuscular organism, whether amblystoma or a human being but is of particular importance in the case of humans; it is a topic in which AT people are greatly interested.

Take the example of when a particular part of the body, say the arm, is used to do something. If this is to happen effectively and efficiently, the neuromuscular system needs to inhibit the parts of the body that are not involved in the arm movement. If there is no inhibition of the parts of the body not involved, the whole of the body flops

²³ Herrick (1949)161

²⁴ Ibid.p161

²⁵ Ibid.p163

about in an uncoordinated way as can be seen in various muscular or nervous disorders.

The way Coghill puts expresses it is that:

The major division of the total pattern must be under inhibition when a part acquires independence of action, and the same part can be inhibited while the major segment of the total pattern acts. So that the whole individual probably acts in every response, either in an excitatory or inhibitory way.²⁶

This was a topic which Sherrington discussed extensively in *The integrative action of the nervous system* twenty years earlier and led to his formulation of what came to be known as Sherrington's Law of Reciprocal Innervation. Simply put, it means that when excitatory signals are being sent to muscles to perform an action, inhibitory signals are automatically sent to the muscles in the rest of the body which are not part of the action or would interfere with it. In his 1936 Rede Lecture, Sherrington put it:

...to refrain from an act is no less an act than to commit one, because inhibition is coequally with excitation a nervous activity.²⁷

Normally, the inhibition of the muscles not required for a particular action takes place automatically. But the roots of human versatility, and freedom of action, lie in the extent to which the cortex, the thinking part of the brain, can be used to override automatic or reflex functioning. It enables humans to perform actions which are beyond the remotest bounds of animal behaviour; it equally enables them to develop habits of behaviour which affect the individual-as-a-whole in uniquely self-damaging and destructive ways.

Coghill had planned to write a book called *Principles of development in psycho-organismal behaviour*²⁸ and had prepared an outline structure for it but he died before he had made any progress in writing it. He did, however, publish a paper in 1938 which sets out some of his basic ideas.²⁹ The paper is entitled *Space-time as a pattern of psycho-organismal mentation* and as might be inferred from its title it is not easy to understand; even his ever-sympathetic biographer, Judson Herrick, found difficulties with it and remarks that it contains *...elliptical and cryptic passages that puzzle the reader.*³⁰ In his biography of Coghill, Herrick also reproduces the text of a manuscript paper on broadly similar lines, written around 1939 but unpublished when he died.

Coghill's elusive concept of "mentation" was his way of avoiding the mind-body dichotomy. His unpublished 1939 paper comes closest to an explicit statement of what he meant when he says that his work since 1907 had convinced him:

...not only that structure and function are one and inseparable, but that mentation with structure and function is one of an inseparable trinity, so to speak, making up the organism as a whole.³¹

²⁶ Ibid.p122

²⁷ Sherrington (1933)p10

²⁸ Herrick (1949)p253.

²⁹ Coghill (1938)

³⁰ Herrick (1949)p163

³¹ Ibid.p153

Herrick is unable to shed any significant further light on what exactly Coghill meant by this formulation. He says that:

*Coghillian mentation, present in all organisms, shows progressive growth by individuation throughout phylogenetic and individual development. It is not clear at what stage in these processes the awareness component of mentation emerges or what may be the mechanism involved in this emergence.*³²

In addition to his published and completed work, Coghill also left a variety of manuscript notes and incomplete drafts. Using these and his deep personal familiarity with Coghill and his thinking, Herrick does his best to weave these fragments together to provide a basis for the series of imaginary dialogues between himself and Coghill which occupy the final third of the book. As Herrick says:

*Because so little of Coghill's thinking about psychology and philosophy appeared in print and because his manuscript notes are so tantalizingly disconnected, any attempt to present a systematic exposition of his philosophy would do him great injustice. For this reason the available material is presented informally in conversational style, so as to avoid any appearance of comprehensive organisation.*³³

Herrick's efforts provide a variety of hints about where Coghill's thoughts may have going but remain far short of the lofty ambitions for a satisfying naturalistic philosophy Coghill had set himself a lifetime earlier. They will continue to tantalise Coghill scholars and specialists. The advantage enjoyed by AT practitioners is that there is no need to attempt to reconstruct his thoughts on the AT. He set them out clearly in the Appreciation he wrote for Alexander's final book *The universal constant in living*.

Coghill and the Alexander Technique

Coghill first learned about the AT in 1939 when he was in Gainesville. A New York journalist, Arthur Busch, a pupil of A. R. Alexander,³⁴ a brother of F.M. Alexander, was struck by similarities between the work of Alexander and that of Coghill, and published an article in *The Brooklyn Citizen* in which he said that "*Professor Coghill's findings confirm the scientific basis of Alexander's practical work.*"³⁵ This led to a correspondence between Busch, Coghill and Alexander, resulting in Alexander sending Coghill copies of his first two books, *Man's supreme inheritance* and *Constructive conscious control of the individual*. There is an account of this episode written by Edward H. Owen, one of Alexander's supporters, in the book *More Talk of Alexander* by Wilfred Barlow.³⁶

Coghill wrote to Alexander about the books:

*I am reading these with a great deal of interest and profit, amazed to see how you, years ago, discovered in human physiology and psychology the same principles which I worked out in the behaviour of lower vertebrates.*³⁷

³² Ibid.p157

³³ Ibid.169

³⁴ Bloch (2004)p172

³⁵ Barlow (1978)p256

³⁶ Ibid.pp256-259

³⁷ Ibid.257

After the outbreak of the Second World War, Alexander who was then in his early seventies, was persuaded for his own safety to go to America. There was genuine fear that Britain would be invaded by Germany and Alexander was reputed to be on Hitler's wanted list because of some of the things he had said about Germany and its role in the First World War in *Man's supreme inheritance*. The book includes, for example, an extended discussion of the general failings of the German race in which Alexander describes them as "*an unfortunate and deluded people*."³⁸

Because of his contact with Coghill, Alexander made a point of visiting him in Gainesville just before Xmas 1940 but by this time Coghill was in very poor health indeed. Alexander talked with him and worked with him for three days over a weekend and they got on very well together. In a letter to Walter Carrington, Alexander described the work with Coghill as "*his longest session*".³⁹ According to Edward H. Owen, who delivered the 1961 F.M Alexander Memorial Lecture, Alexander later wrote to Coghill's biographer, Herrick, saying:

*My meeting with Coghill was a notable and valuable happening in my 81 years experience.*⁴⁰

The value of his encounter with Coghill for Alexander was that it provided him with further scientific support and validation of his own work in developing the Technique. Coghill, in his turn, wrote to a friend after his meeting with Alexander reiterating his conviction that:

*Mr Alexander seems to me to be a very unusual man. He has grasped the same scientific principles through practical work with human beings that I have found through my investigations of detailed anatomy in the lower forms.*⁴¹

Coghill's lifelong concern had been to elucidate what he called "*the problem of behaviour*" - he used the phrase in the title of his published version of the lectures he gave in London in 1928. This broad concept of behaviour comes close to what Alexander meant by the word "*use*". In *The use of the self*, for example, Alexander says:

*...when I employ the word 'use', it is not in that limited sense of the use of any specific part, as, for instance, when we speak of the use of an arm or the use of a leg, but in a much wider and more comprehensive sense applying to the working of the organism in general.*⁴²

Coghill had developed his ideas on the need for the proper balance between the totality and the individual parts of an organism before he had heard of the AT but it is easy to see why, when he did learn of it, that he would find it compatible with his own thinking. After he met Alexander he wrote to a colleague, Dr Millard Smith, in Boston:

Mr Matthias Alexander owes me nothing in regard to the principle of the "total pattern" for he and I worked in total ignorance of each other until the last year or two. That he should discover the principle in the human

³⁸ Alexander (1910)p103

³⁹ Alexander (1946)p234

⁴⁰ Barlow (1978)p258

⁴¹Alexander (1946)p234

⁴² Alexander (1932) p22

*organism is marvellous, and he deserves all the credit that the medical profession and humanity can give him.*⁴³

Because they had got on so well, Alexander asked Coghill to write an Appreciation or foreword to *The universal constant in living* which Alexander was just completing. Even though he was a desperately ill man Coghill did so, completing it just a few weeks before he died.

Coghill's Appreciation in Constructive Conscious Control of the Individual

On the face of it, the study of the neuromuscular development of tiny newly-hatched newts does not reveal a great deal about the theory or practice of the Alexander Technique as a means for the psycho-physical re-education of fully grown human beings. But having read Alexander's books, talked to him and experienced the AT, this is exactly what Coghill had come to believe.

He begins his Appreciation with a firm declaration of support for the scientific validity of Alexander's approach in the Technique. He says:

*The practice of Mr F. Matthias Alexander in treating the human body is founded, as I understand it, on three well-established biological principles: 1. that of the integration of the whole organism in the performance of particular functions; 2. that of proprioceptive sensitivity as a factor in determining posture; 3. that of the primary importance of posture in determining muscular action. These principles I have established through forty years in anatomical and physiological study of *Amblystoma* in embryonic and larval stages, and they appear to hold good for other vertebrates as well.*⁴⁴

He adopts a definition of posture as a dynamic, rather than fixed, state while at the same time distinguishing it from movement:

*It seems reasonable, therefore, to propose that in posture the individual is mobilized (integrated) for movement according to a definite pattern, and in movement that pattern is being executed. In posture the individual is as truly active as in movement.*⁴⁵

Elsewhere he clarifies this further, adding:

*Posture, therefore, is a forerunner of action and must be regarded as basic to it.*⁴⁶

He goes on to say that Alexander's

*...work is concerned with the nature of the influence of the working of the psycho-physical mechanisms upon the general functioning of the human organism (posture), and his technique was evolved as an aid in maintaining the general conditions best suited to this working in those in whom they already exist, and in changing and improving them when this working can be shown to be harmful.*⁴⁷

There is nothing new here for AT practitioners. Coghill is reiterating Alexander's insistence on the need to ensure that the proper overall functioning of the total

⁴³ Alexander (1946)p114

⁴⁴ Ibid.pxix

⁴⁵ Ibid.pxx

⁴⁶ Ibid.pxxii

⁴⁷ Ibid.pxx

human being, the psychophysical mechanism, is addressed before any attempt is made to deal with specific problems. The important point is that it shows how readily this familiar and fundamental Alexandrian principle of the psychophysical unity of the human being can be expressed in the in unequivocally scientific language.

Coghill goes on to say that Alexander

...has further demonstrated the very important psychological principle that the proprioceptive system can be brought under conscious control, and can be educated to carry to the motor centre the stimulus which is responsible for the muscular activity which brings about the manner of working (use) of the mechanism of correct posture.⁴⁸

This, on the other hand, will undoubtedly raise scientific eyebrows since in it is generally accepted that the proprioceptive system is an innately given set of receptors of various kinds distributed about the body which cannot be brought under conscious control or educated. But such dividing lines within the psychophysical totality of the human being are not as easily drawn as is sometimes assumed and. this was familiar territory to Coghill. His concept of mentation enabled him to bypass the mind-body problems which quickly emerge once the question of how the body is “consciously controlled by the mind” but raises as many questions as it answers. Luckily the workings of the AT, in common with most aspects of human behaviour in the practical world, do not depend on an agreed definition of “consciousness” and how it works.⁴⁹

Coghill continues his Appreciation by relating how Alexander provided him with a practical demonstration how misuse of the body can arise from the habitual use of the chair which he excoriates as a late introduction to human living and *...the most atrocious institution, hygienically of civilised life.*⁵⁰ He goes on to say that in the demonstration Alexander

...enabled me to prevent misdirection of the muscles of my neck and back, and bring about a use of these muscles that determined the relative position of my head and neck to my body and so on to my limbs, bringing my thighs into the abducted position. This led to changes in the muscular and other conditions throughout my body and limbs associated with a pattern of behaviour more natural (in agreement with the total pattern) for the act of getting to my feet.⁵¹

He goes on to say that when there is a continuing mismatch between the actual functioning of the neuromuscular system and that dictated by the total pattern both physical and mental problems can ensue. As he put it:

It is my opinion that the habitual use of improper reflex mechanisms in sitting, standing and walking introduces conflict in the nervous system,

⁴⁸ Ibid.pxxv

⁴⁹ It is sufficient for these practical purposes to recognise or accept that habits which interfere with the proper functioning of the reflex or proprioceptive systems can be acquired. Developing a means of getting rid of such habits, which by definition function below the level of conscious awareness, was central to Alexander’s achievement.

⁵⁰ Alexander (1946)ppxxii

⁵¹ Ibid.pxxiii

*and that this conflict is the cause of fatigue and nervous strain, which bring many ills in their train.*⁵²

Here, he is evidently using the term “*reflex*” in the sense of a cultivated or acquired habit which has become automatic, rather than the innate response meaning which Sherrington gives it. He continues:

Mr Alexander, by relieving this conflict between the total pattern which is hereditary and innate and the reflex mechanisms which are individually cultivated, conserves the energies of the nervous system, and by so doing corrects not only postural difficulties but also many other pathological conditions that are not ordinarily recognized as postural. This is a corrective principle that the individual learns for himself and is the work of the self as a whole...

And concludes with the following resounding endorsement of the AT:

*Mr Alexander’s method lays hold of the individual as a whole, a self-vitalizing agent. He re-conditions and re-educates the reflex mechanisms, and brings their habits into normal relation with the functions of the organism as a whole. I regard his methods as thoroughly scientific and educationally sound.*⁵³

Conclusion

Despite his public endorsement of Alexander and his contribution of the Appreciation to *The universal constant in living*, Coghill is a somewhat neglected figure in AT circles. This is probably because of the general opacity of his writings and the fact that the focus of his research was on such a strange little creature as amblystoma. He is nonetheless well worth thinking about seriously.

From the beginning of his scientific career he recognised that his own detailed findings on the early development of amblystoma, if they were to be relevant to his main concern, the question of human behaviour, needed to be linked to a wider concept of psychophysical unity in which, to use his own words, *the nature and interrelation of sensation, perception and thought*, could be more fruitfully investigated. When he met Alexander, he must have known from his own state of health that even with the ferocious dedication that he brought to everything he did, his ambition to produce the grand synthesis towards which had devoted his intellectual efforts for so long was finally beyond him.

It is therefore easy to see how Alexander’s thoughts on the psychophysical unity of the human being, and the necessity for an integrated use of the self, provided an operationally efficacious blending of his unresolved thoughts on how the life-long battle between total pattern and the tendency towards individuation of its constituent parts could be resolved. The discovery of Alexander’s work would have represented a radical simplification of the task he had set himself. It was kind of coming home for Coghill and hence his excitement about it.

The issue of how the any organism, and most particularly the psychophysical entity that is the human being, deals with the tension between the whole and the parts is still as relevant as it was in Coghill’s day. In the broad sweep of neuroscience, enormous advances continue to be made in understanding the detailed functioning of

⁵² Ibid.pxxiv

⁵³ Ibid. xxiv

nerve cells and their interactions at a microscopic and submicroscopic level, but how all this adds up to the behavioural patterns of functioning human being, is not always given the attention it deserves.

To his credit Coghill never forgot this broader context. For practitioners of the AT, it is central to what they do. Coghill's recognition of the dichotomy between individuation and the total pattern provides useful scientific models or metaphors for Alexander's views on the psychophysical unity of the individual, how it can be disrupted by habits of misuse, crucially, how in practical terms the appropriate balance can be maintained, or restored when it has been lost.

Finally, a little thought-provoking anecdote from Walter Carrington's book *A time to remember* in which he recounts that when Coghill was talking to Alexander he compared their two lives. Coghill said that as a healthy young man he had devoted his life to science and ruined his health peering through a microscope to find out the principles which Alexander as an unhealthy youth had discovered by looking in a mirror and used them to improve himself and live to be the healthy seventy-two year old that Coghill had come to know.⁵⁴

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⁵⁴ Carrington (1996)p50