

## No 20 George Ellett Coghill (II)

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1. Last time, I gave you some biographical background on George Ellett Coghill, the scientist who wrote the Appreciation in *The universal constant in living*. We saw how the greater part of his scientific career was devoted to research on the early life of a little newt-like creature called *Amblystoma*.
2. We saw the ups and downs of his life and fortunes and had reached the final stage where he had retired to a small farm in Gainesville in Florida. It was there he learned about the Alexander Technique.
3. It happened because of an article written about Coghill by an American journalist, Arthur F. Busch, who happened to be a pupil of F.M.'s brother, A. R. Alexander in New York. In this article, which was published in the *Brooklyn Citizen*, a local New York paper, in April 1939. Busch said that Coghill's work confirmed "*the scientific basis of Alexander's practical work.*"<sup>1</sup>
4. This was brought to F M Alexander's attention in London and led to a correspondence between Busch, Coghill and Alexander. As a result, Alexander sent Coghill copies of *Man's supreme inheritance* and *Constructive conscious control of the individual*.
5. 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.*<sup>2</sup>
6. At this stage, the Second World War had just broken out and 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 the German people in *Man's supreme inheritance*. He had, for example, described them as an "*unfortunate and deluded people*",<sup>3</sup> which cannot have gone down well with Hitler.
7. Because of his contact with Coghill, Alexander made a point of visiting him in Gainesville in February 1941 but by this time

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<sup>1</sup> Barlow (1978)256

<sup>2</sup> Ibid.257

<sup>3</sup> Alexander (1910)p103

Coghill was in very poor health suffering from arthritis and a very bad heart. Alexander worked with him for three days over a weekend and they got on very well together.

8. In a letter to Walter Carrington, Alexander described the work with Coghill as "*his longest session.*"<sup>4</sup>

9. Coghill wrote to a friend after Alexander's visit and said:

*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.*<sup>5</sup>

10. Because they had got on so well, and Coghill was so scientifically supportive of the AT, Alexander asked him to write the Appreciation that appears in *The universal constant in living* and Coghill did so even though he was at this stage a desperately ill man with only a few months to live. He finished the Appreciation just a few weeks before he died of heart failure in June 1941 at the age of 69.

11. There is an account of the whole Coghill-Alexander episode given by Edward H. Owen, who was editor of the *Alexander Journal*, in the 1961 Alexander Memorial Lecture, which is reprinted in Wilfred Barlow's book *More Talk of Alexander*.<sup>6</sup>

12. On the face of it, Alexander and Coghill did not have a great deal in common. Knowing about the neuromuscular development of newly hatched newts does not tell us a great deal about the Alexander Technique as a means for the psycho-physical re-education of fully grown human beings. It also seems a long way from the chair and table work we do with our pupils.

13. But having read Alexander's books, talked to him and experienced the AT through Alexander's hands, this is exactly what Coghill believed. So what we have to ask ourselves is why he did so and what can we as AT practitioners learn from it.

14. In thinking about this, we need remind ourselves that despite the fact that he had devoted forty years of his working life to the study of amblystoma, Coghill was far more than a scientific technician. Like Sherrington and Magnus, he was in pursuit of much higher things.

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<sup>4</sup> Alexander (1946)p246

<sup>5</sup>Ibid.234

<sup>6</sup> Barlow (1978)p256-259

15. Right at the beginning of his scientific career, Coghill had said that his aim was to investigate “*the nature and interrelation of sensation, perception and thought.*”<sup>7</sup>
16. Coghill believed if he could get somewhere with that task it would enable him
- ...to achieve “a philosophy, not of being, but of becoming; not of life, but of living, which is itself my supreme experiment.*<sup>8</sup>
17. It is also noteworthy that according to his biographer
- ...his work for many years received more attention and had more influence among psychologists than among his colleagues in biology.*<sup>9</sup>
18. The reason for this was that though the details of his work were focused on the anatomical development of newly hatched amblystoma, what really interested him was how this was related to the development of what he called “behaviour”.
19. Coghill used behaviour in the technical sense of how an organism responds to internal or external stimuli. It is simply the way a creature goes about doing what it does. This is quite close to what Alexander meant by the word “use”.
20. In *The use of the self* 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.*<sup>10</sup>
21. What Coghill wanted to know was how behaviour develops in a creature as it matures. At the time he was doing his early research there was a lot of debate about the extent to which, in any particular animal, its behaviour is something inherently determined from the beginning or depends on the influences to which it is exposed as it develops.
22. In the introduction to *Anatomy and the problem of behaviour* Coghill drew a distinction between what he called haphazard and orderly development. He wanted to know if the path of a creature’s development is a response to the haphazard or

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<sup>7</sup> Coghill (1929)pv

<sup>8</sup> Herrick (1949)230

<sup>9</sup> Ibid.168

<sup>10</sup> Alexander (1932)22

random events to which it is subject as it grows, or does it happen in an orderly and predictable manner.

23. The way he put it was:

*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;*<sup>11</sup>

24. He 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.*<sup>12</sup>

25. That was, in fact, what he found. The key conclusion Coghill reached from his work was 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.*<sup>13</sup>

26. His original question had been about how does behaviour develop? His answer was that the overall organisational pattern for behaviour is there from the beginning. He called this “the total pattern”.

27. We might be inclined to think of this as the genetic inheritance of the creature but this was before the discovery of DNA and Coghill’s idea was broader.

28. Different creatures obviously have different total patterns – dogs develop in different ways from cats or amblystoma. But whether you are a baby rabbit, a baby frog, or a baby human, there is an inherent total pattern into which you will grow as you develop.

29. Ducks obviously have different total patterns to humans. But Coghill could also see that within their total patterns, ducks and *Amblystoma* and humans seemed to have some freedom of choice. They did not behave as though they were automata – wound up mechanical objects with only one way of doing things.

30. The next question for Coghill was how could he introduce this kind of variation into the total pattern? He hit upon the idea of what he called neurological overgrowth.

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<sup>11</sup> Coghill (1929)vi

<sup>12</sup> Coghill (1929)vi

<sup>13</sup> Ibid.38

31. He said that during the development of any vertebrate organism, there is an *“overgrowth of neural mechanisms beyond the capacity of the animal to express their full nervous potential in behaviour.”*<sup>14</sup>
32. In other words, at each stage in the early development of the creature, the nervous system extends itself beyond the muscular capacity and skills of the moment – this is what he meant by neurological overgrowth. Because of this, the growing creature has the neurological wiring that allows it to do new and different things as soon as it acquires the physical capacity to do so.
33. This applies even to the simple little *Amblystoma* and means that for each stage of its development, there is a certain degree of freedom within the constraints imposed by the total pattern.
34. The way Coghill puts 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;*
35. In other words it has the possibility to respond in its own way to the circumstances in which it finds itself. And Coghill goes on to say:  
*and in this autonomy is the natural source of initiative or freedom in behaviour...*<sup>15</sup>
36. The more complex the creature, the greater the degree of neurological overgrowth and hence the greater freedom it has. This means that cats and dogs have greater freedom to respond to their environment than amblystoma. Humans have even greater freedom.
37. Coghill also says the phenomenon of neurological overgrowth creates a dynamic system in which  
*...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.*<sup>16</sup>
38. He goes on to say that:

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<sup>14</sup> Ibid.92

<sup>15</sup> Herrick (1949)222

<sup>16</sup> Ibid.p222

*...man is, indeed, a mechanism, but he is a mechanism which, within his limitations of life, sensitivity and growth, is creating and operating himself.*<sup>17</sup>

39. But he also saw the problem that if there is a total pattern for each creature, whether it be an *Amblystoma*, a duck or a person, and they have a certain degree of freedom within it, there must a possibility of differences of behaviour occurring within the total pattern.

40. This was where he came up with the idea of individuation of parts within the total pattern. Parts of the organism can act independently of the total pattern but it has to be within the limits imposed by the total pattern.

41. If I am a duck, I can use my feet in a variety of ways but not for playing football. If I am a human I have a much wider range of possible ways of using myself but still within the confines of my total pattern.

42. So there is always a tension between individuation, the independent action of the parts, and the total pattern. The simpler the animal, the easier it is to have a non-problematic balance between the whole and the parts. But for humans achieving the optimum relationship is much more difficult.

43. 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.*<sup>18</sup>

44. 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.*<sup>19</sup>

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<sup>17</sup> Ibid.222

<sup>18</sup> Ibid.161

<sup>19</sup> Ibid.p161

45. If the balance goes seriously or permanently 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.*<sup>20</sup>

46. We can see that this is getting pretty complex. We have a total pattern. We have an uneasy balance between the total pattern and the individuation of parts that is necessary for differences in behaviour.

47. But Coghill the moralist and austere presence also needed people to be responsible for their acts. It was not just that there was a tension between the total pattern and the individuation of the parts.

48. He also needed free will. Without that how could people be held responsible for their acts? And how could free will be reconciled with the idea of the total pattern?

49. To deal with that, Coghill came up with his idea of mentation. If you look it up in the Oxford Dictionary, you will see it just means activity of the brain but Coghill gave it his own meaning which he sets out in a short paper called *Space-Time as a Pattern of Psycho-Organismal Mentation* that was published in *The American Journal of Psychology* in 1938.

50. In this, Coghill said

*Mentation, at least in its higher levels, conforms to neither space nor time. It is an attribute of the psycho-organismal individual as opposed to the organismal. While it presumably cannot be alienated from the organismal elements of structure and function, it is neither. It is that which perceives structure and function and constructs science and art out of them. Yet it is everywhere and always integrated with the organismal*

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<sup>20</sup> Ibid.p163

*elements of space and time, and like them undergoes development.*<sup>21</sup>

51. His ever-sympathetic biographer Herrick does not quite know what to make of it. He says:

*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.*<sup>22</sup>

52. Coghill also left a five-page hand-written outline for a book that was intended to explain everything, in a small notebook. It was to be the culmination of his life's work but it just lists huge questions and is perfectly clear, particularly given his state of health, that it was unwritable. It had chapter headings like:

*Phylogenetic individuation in mentation*

*Truth and reality as patterns of mentation*

*Moral mentation: freedom; right and wrong*

*Personality; infancy, adolescence; senescence; recapitulation*

*Human limitations; aspirations; prophesy; prayer; the wish.*<sup>23</sup>

53. The fact was Coghill was totally stuck. But his meeting with Alexander and his writing of the Appreciation for *Constructive conscious control of the individual* allowed him in the end to see a way out of the trap he had created for himself. That is for next time.

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<sup>21</sup> Ibid.p163

<sup>22</sup> Ibid.p157

<sup>23</sup> Ibid.p253