

# The 19<sup>th</sup> century origins of the dormant stage in cancer metastasis

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## Historical Chapter

The Merriam-Webster's Collegiate Dictionary,<sup>1</sup> defines "dormant" as a word which arose ca. 1500 and means "temporarily in abeyance yet capable of being activated." It was in this sense that it was pressed into service in 1954 when Hadfield delivered the Keith Memorial Lecture of the Royal College of Surgeons of England.<sup>2</sup> As he put it:

In any case, the phenomenon of temporary growth suppression in tumour pathology is of obvious biological importance, and for the sake of brevity in choosing a title for this lecture I have used the word "dormant" to describe malignant cells which, although remaining alive in the tissues for relatively long periods, show no evidence of multiplication during this time, yet retain all their former and vigorous capacity to multiply.

In this context, the most recent appraisal of this issue was that "Tumor dormancy was first defined by Willis and then redefined by Hadfield."<sup>3</sup> However, in keeping with my examples,<sup>4</sup> what was held to be new, may turn out to have been fully canvassed earlier. It is in this sense that I recall the great "Discussion on Cancer" which was held by the Pathological Society of London with the famous Sir William Jenner, President, in the Chair. On that auspicious occasion, the eponymous giant, Campbell de Morgan, opened the event.<sup>5</sup>

It is necessary to abridge his arguments which included the "dormant" stage in cancer thus:

Cancer has been there potentially for years, but its time has not come. Such I believe is the explanation of the fact that cancer germs which have wandered from the parent tumour may remain quiet for an indefinite length of time.

Next, he continued pointedly as follows:

While I believe it probable that the germs of cancer may thus remain in a sort of dormant condition for long periods of time, I would by no means imply that there is not in cancerous patients a special disposition to tissue change, located in some but not in all the structures of the body.

Three years later, Butlin,<sup>6</sup> brought before that Society the case of a 10-year-old boy who was suffering from sarcoma. He died and his illness was discussed. It is of considerable interest that the dormant state was also conceived thus: It seems very improbable in this case that the tumour of the thigh stood in direct blood-relation to that of the foot, and that it had remained dormant for four years.

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Accordingly, these two instances of the very use of "dormant" are meaningful. Certainly, they exemplify what Burnet,<sup>7</sup> underlined during a Memorial Lecture, on the "Morphogenesis of Cancer," namely, that in the pursuit of research, the historical antecedents are very important. Thus, this research reveals that the historical origins of the dormancy phenomenon go back to the 1870s and not to 1954.<sup>2</sup>

## Acknowledgements

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## Conflict of interest

Author declares there is no conflict of interest.

## References

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