

## *Historical Review*

# The scholarly work of James Smiley,

OBE, MD, MD (*h.c.*), FRCPI, FFOM (*h.c.*), FFOMI, DIH

Sir Peter Froggatt

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Jim Smiley (1907–1988) was the most important and eminent occupational medical specialist Ulster has produced this century, perhaps ever. From a provincial base as industrial medical officer to several Belfast companies, most notably Short Bros. and Harland, and as Appointed Factory Doctor for East Belfast, he scaled every peak the practising specialty had to offer in these islands, as well as gaining unique international recognition. In summary: to his primary degrees (Queen's, 1930) he added MD "with high commendation" (1946) and DIH (1948); he was a long-serving council member and (in 1967) the only Irishman to be president of the then Association of Industrial Medical Officers, UK (now the Society of Occupational Medicine)\*; he was a Foundation Fellow of the Faculty of Occupational Medicine of the Royal College of Physicians of Ireland (1976), its first vice-dean and later (1981–83) its dean; he was elected an *ad eundem* Member (1976) and then Fellow (1978) of the Royal College of Physicians of Ireland and an honorary Fellow of the Faculty of Occupational Medicine of the Royal College of Physicians of London (1982); in 1984 he was chosen to join *les superbes* of the exclusive Ramazzini Club (confined to 25 members from each of USA and Europe); and became MD again of Queen's in 1986, this time *honoris causa*, "for services to occupational medicine". His early OBE (1960) recognised his contributions to industry and presaged further ones. In 1988 a handsome endowment from his family enabled the Irish Faculty to do what it so dearly wished to, namely establish a Smiley Memorial Lecture and Gold Medal. Dr Jack Eustace, the Faculty's first dean, inaugurated the annual series in November of that year.<sup>1</sup> I was privileged in 1989 and Emeritus Professor Richard Schilling in 1990.<sup>2</sup>

Smiley was essentially a practitioner and promoter of his specialty, and one of its leading intellectuals, visionaries and strategists. He was not by practice or training primarily a researcher, but he made his own opportunities, and his investigative work, though not abundant, includes some seminal projects and covers in a remarkably prescient and adept way many of the ubiquitous problems in occupational medicine as it has developed since the second world war. Being to a large extent self-taught in the *mystiques* of the researcher he brought to bear on his

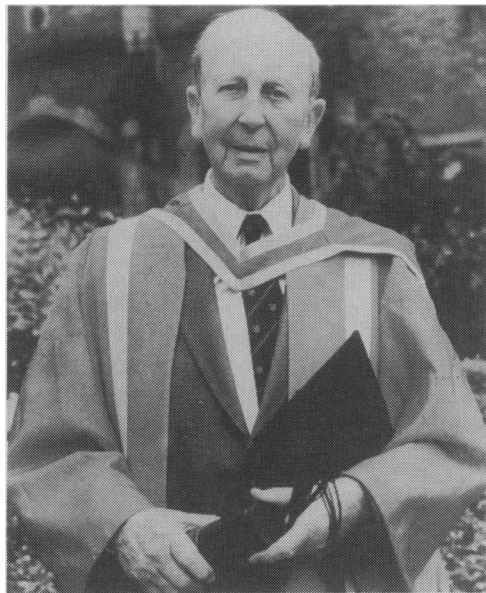
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topics a freshness of thought, a questioning of basic tenets and assumptions, and a forthright intellectual honesty bolstered by shrewdness and ability, and untrammelled by those wranglings over techniques and schools of thought which are too often the marks of the "trained" investigator. Furthermore, his research was conducted from busy practice: Smiley had no academic base nor had he unusual access to university resources, his only attachment being as a part-time lecturer at Queen's, first in industrial toxicology (1952 – 6) and then in industrial medicine (1959 – 72), barely in total the full-time annual equivalent of two weeks' work, and after the DPH was dropped in the mid nineteen-sixties not even that. His researches are important enough to deserve a synthesis and an analysis, and these I attempted in my Smiley Lecture. My credentials for the task, if not overwhelming, were at least respectable and, I hope, convincing in that one of the topics — accident proneness — became a research interest of my own;<sup>3</sup> I developed another — industrial absenteeism — into my own PhD thesis;<sup>4</sup> Smiley and I were members of the research group which explored a third — flax byssinosis;<sup>5</sup> yet another — the early factory inspectorate — was germane to my lecture inaugurating the Dublin Faculty;<sup>6</sup> while a fifth — nineteenth century Belfast medicine — is still very much an interest of my own.<sup>7-16</sup> This confluence of topics was neither pure coincidence nor naked plagiarism but in part mutual opportunity and in part Smiley's influence on my own intellectual development, since I worked as his assistant in Short Bros. and Harland from June 1957 to September 1959, two stimulating years during which to my advantage and benefit I was able to penetrate the reserved and misleadingly austere demeanour of the man to discover the sharp intelligence, breadth of culture, deep learning, sincere conviction and warm personality which lurked beneath. What follows is a shortened version of my Smiley Lecture modified for this journal.

Smiley wrote 12 articles in abstracted journals<sup>17-28</sup> and one in a non-abstracted one;<sup>29</sup> an MD thesis which earned a "high commendation" grade;<sup>30</sup> contributed one chapter and much of another in a government-sponsored report;<sup>31</sup> gave the Milroy Lectures (of the Royal College of Physicians) in London,<sup>19</sup> the McKenzie Lecture (of the British Medical Association) in Dublin,<sup>26</sup> and the first Scott-Heron Lecture in Belfast,<sup>24</sup> all on different topics; and lectured, consulted and advised at many centres in these islands and abroad. I will discuss these grouped by topic, and so far as possible chronologically, since Smiley's writings conform to a clear pattern of choice and show a growing authority in treatment, and an intellectual maturity in discourse and style.



Jim Smiley, on the occasion of receiving his degree of Doctor of Medicine (*honoris causa*) at Queen's University, Belfast, July 1986.

*Accident-proneness*

Smiley's first project was for his MD thesis.<sup>30</sup> His results were widely promulgated, being of potentially ubiquitous application, and led to an invitation to read the Milroy Lectures in London in 1955, one of very few Irishmen so honoured.<sup>19</sup> They were controversial, but were generally,<sup>32</sup> though inevitably not universally,<sup>33</sup> well received. In 1958 he published a short commentary<sup>23</sup> and in 1964 co-authored with me a detailed "state-of-the-art" review.<sup>25</sup> These four publications comprise Smiley's writings on the subject. His core work is his thesis<sup>30</sup> and his derivative Milroy Lectures:<sup>19</sup> in fact they can be treated as one because in the intervening nine years his views changed very little, and in the Lectures he cites only four additional publications from the plethora of new work available. It would be wrong, however, to interpret this as intellectual rigidity or lack of scholarship. Much was read but few works were quoted because many dealt with unanalogous data, e.g. involving coal-miners,<sup>34</sup> railway shunters,<sup>35</sup> automobile drivers,<sup>36</sup> and trainee pilots,<sup>37</sup> or with statistical interpretation and theory<sup>38-40</sup> which were uncondusive to his interests or, as he always frankly admitted, were beyond his expertise.

What was the importance of his accident-proneness work? Smiley's MD thesis, though a novice work, was balanced in argument, thorough in execution and, except for some zealous speculation, mature in judgement. He was unfamiliar with the essential techniques of numerate analysis of repeated events, (a grave handicap in accident studies), but he grasped with that mixture of deep intelligence and intuition which were his hallmarks, that shortcomings in his data could produce artifactual results, and the self-imposed rigour of his approach set a benchmark for all future work on minor industrial accidents, and reached a demanding standard which many historic publications in the field do not approach. The *desideratum* of statistical "curve-fitting" (Poisson and Negative Binomial) was done by a Queen's colleague (Dr A Beacham, PhD) — now a simple soft-ware program would suffice — and though Smiley versed himself in the interpretative pitfalls he underestimated the importance to the validity of his results of the confounding of "tendency to have" with "tendency to report" an accident. He was measuring overt expressions of what was then called "the nervous temperament", of which frequent surgery attendance is one, and so cause could have been taken as effect rather than vice-versa. To this well-publicised contemporary criticism<sup>33</sup> the sharp acuity of retrospect has added three more, explicit or implied. Firstly, in much of what he wrote Smiley seemed to accept the pristine concept of accident-proneness as a reasonably stable inherent property rather than as a more variable tendency waxing and waning with a multitude of innate and external factors (worry, fatigue, etc) and with a substantial element of chance superadded. This latter concept, however, is based mainly on statistical work *after* Smiley's thesis was published! But in fact his case histories show that he did *not* as a generality accept the pristine form as his critics alleged: his thesis was more flexible. This undoubtedly led to some inconsistencies in his interpretations and circles to be squared, a vulnerable flank which I will mention below. Secondly, he relied mainly on subjective clinical signs in his groups as indicating "the nervous temperament", such as palm sweating and pulse rate rather than on psycho-motor tests and psychometric measurements. This implied criticism is harsh: psycho-motor tests had in the past been unreliable and poor correlates with the accident record, while

simulators and psychometric machines were popularised for high-skill selection during the second world war, and in 1945, when Smiley's field-work was done, they were either unavailable, expensive, or uncertain, and often all three. Thirdly, he was too speculative in that with little direct evidence he incriminated the hypothalamus as the regulatory centre in "accident-proneness" postulating that since it acted as the focus of autonomic activity it could normally be maintained in precarious balance by excitatory and inhibitory impulses from the cortex either of which could be impaired in the accident-prone state. This offended the ascendent school of the patho-physiological reductionists, was overtly simplistic, lacked something of his usual circumspection, and sat oddly with the meticulous garnering of his data. It looked both then and now altogether like a bridge too far. Smiley in his zeal had ventured beyond his chartered territory, tempted as any inexperienced explorer by excitement to push back the boundaries of knowledge. He often later wryly told me that in his exuberance he tried to conjure too much out of the hat!

I can reply to these criticisms. As a statistical novice Smiley could not challenge the *statistical* basis for the 'accident prone syndrome' which predicated that all those exposed to an equal risk of an accident are not equally liable to incur one, that this "liability" is innate, distributed among the population in a particular way (a so-called "Pearson type III" distribution), and is more or less permanent. To this some would legitimately add the refinement that if "liability" *does* change, it changes to the same degree in each individual and is dependent strictly on the number of accidents incurred. As an acute observer Smiley was understandably sceptical of such a mechanistic concept on the *clinical* evidence, a medium in which he was at home. In both his thesis<sup>30</sup> and Milroy Lectures<sup>19</sup> he had clearly envisaged that although some employees were more accident-prone than others, the degree of accident-proneness could wax and wane and not be the eternally inflexible, untreatable diathesis of the statistical theory. Any incompatibilities between the statistical and clinical concepts, and they are there, arise from Smiley's understandable limitations as a statistician rather than as a clinician. The brusque dismissal by such as Whitfield<sup>33</sup> that "the main conclusion to be drawn [from Smiley's work] is that proneness to report minor injury can be added to the other known signs of emotional disturbance", may be valid both at strict logic and in particular instances, but it is unrealistic and unjustified regarding the work as a whole.

The adverse comments disappointed Smiley: it was after all his first project; he was no hardened veteran to research controversy. But he neither trivialised nor ignored them; instead, like a model researcher from whom all can learn, he sought to replicate his findings on another group which would be largely free of such interpretative strictures. Even before his Milroy Lectures (1955) he had obtained a research grant from the Nuffield Provincial Hospitals Trust to study road accidents amongst bus drivers. His field-work colleague, however, left at an early stage in the study and in the event the Short Bros. and Harland statistician (the late W L Cresswell, MSc, PhD) and I concluded the work.<sup>3</sup> Smiley was always helpful with ideas and advice but declined joint authorship except of one invited review article in 1964.<sup>25</sup> In truth he was increasingly out of sympathy with the drift of accident research from the domain of the clinician and experimental psychologist to that of the statistician interested more in the arcane world

of complex discrete distribution theory than in accident causation, still less in accident prevention.<sup>41</sup> Unlike some, he was aware of his limitations. He wrote nothing on accidents after 1964<sup>25</sup> and rarely even discussed them. By now his research interests were moving to areas more congenial to his instincts and expertise.

### *Byssinosis*

Two of Smiley's industrial attachments during the nineteen-forties were to the York Street Flax Spinning Company, and the Belfast Ropeworks. The first used flax, the second hemp, and in both there were long histories of respiratory disease in "carders" and "hacklers". Smiley later wrote: "My interest in the subject dates from 1933 when I entered general practice in [East] Belfast . . . During the Second World War it became increasingly clear that [in the Ropeworks] . . . card room workers were exposed to a respiratory hazard . . . [and] . . . that similar cases were occurring in the early stages of processing flax for spinning . . . In 1947 I recognised the similarity of [this] 'pouce', as the Belfast workers called it, and 'byssinosis', as it was being investigated by Schilling in Lancashire".<sup>24</sup> ("Pouce" — or "pouse" — is from the French *la poussière* meaning dust, evidence of the Huguenot origins of the Ulster textile industry). Smiley described this "pouce" in just 450 words in an article in 1951 on the hazards of rope-making,<sup>18</sup> and likened it to cotton byssinosis, the first worker unequivocally to do so. Thorough as always, he invited Richard Schilling and J R W Hughes, the leading byssinosis researchers in Britain, to examine his cases. They came to Belfast, examined independently 26 of his cases (14 in hemp workers and 12 in flax workers) and 26 controls in a "blind" study, and each had a zero mis-classification rate thus confirming Smiley's observation of the clinical similarity of hemp and flax to cotton byssinosis.<sup>24, 42</sup> Smiley's article<sup>18</sup> also contained pioneer descriptions of extensor tenosynovitis in net braiders, oil follicular dermatitis in hemp "sliver" handlers, confirmed boiler-maker-type deafness in plaiting-machine operatives, and even noted psychological shock in preparers, from encountering imported snakes asleep in the bales of hemp!

Smiley was not content with mere disease delineation; his extensive culture carried his interest far beyond the clinical stigmata so beloved by the traditional occupational physician, and he turned towards the entire canvas of "pouce" including nothing less than a socio-medical history of the Ulster linen industry. He now needed a platform and one conveniently presented on 12 July 1955, in Dublin when he read a paper on the Irish linen trade,<sup>29</sup> a foretaste of later, more mature research. For that he needed time and opportunity. The clearing of accident research from his desk after his Milroy Lectures that year (1955) gave him the time; the opportunity soon arrived.

The facts are worth recording. In October 1958 John Pemberton succeeded Alan Stevenson in the chair of social and preventive medicine at Queen's. Pemberton was a noted respiratory disease epidemiologist from Sheffield University, and he soon recruited the respiratory physiologist G C R Carey (lecturer, then senior lecturer, in social and preventive medicine at Queen's, 1959–1968; the epidemiologist P C Elwood (later director of the MRC Epidemiological Research Unit at Cardiff), and the physicist I R McAuley, PhD (now associate professor of physics at TCD). In 1960, prompted by the work of Smiley,<sup>18, 29</sup> and of John Logan,<sup>43</sup>

they led a government-sponsored study of flax and hemp byssinosis in Northern Ireland. Their Report<sup>5</sup> led to its becoming a “prescribed” disease. Smiley (and myself) were members of the study design group and Smiley wrote the first and part of the second chapter of the Report which dealt with historical aspects.<sup>31</sup> Just before this, in 1959, he had been invited to give the first Scott-Heron Memorial Lecture in Belfast. The lecture was certainly a comprehensive treatment: the first draft, which I was privileged to read, ran to over two hours and the truncated lecture itself took an hour and a half. It was a perfect complement to Pemberton’s later study,<sup>5</sup> established Smiley as a byssinosis authority as well as pioneer, and helped to rehabilitate two local nineteenth century worthies — Charles Delacherois Purdon and Andrew George Malcolm — whose early studies of byssinosis<sup>44, 45</sup> had long lain neglected. Smiley was to return to the work of these two in a later article.<sup>27</sup>

After 1960 Smiley wrote nothing further on byssinosis: the decline of the linen and rope-making industries and the “prescription” of byssinosis in Northern Ireland moved it to the wings. Now in his mid-fifties his maturing mind was turning increasingly to the origins, ethics and principles of his discipline rather than its clinical practice and occupational stigmata. Before dealing with these I must first mention his interest in industrial absenteeism. Few know of this but in fact his perceptive ideas embody in microcosm his wide professional culture.

#### *Industrial absenteeism*

In his 1946 thesis on accidents<sup>30</sup> Smiley had described an increase in lost time in his accident-prone group, what was later called “short-term absence from work attributed to sickness”. He pigeon-holed this for later consideration. During the next decade he became increasingly sceptical of the value and validity of shorter-term absence certificates and wished to establish the true aetiology of the certificated illness, and whether there existed an “absence-prone” syndrome analogous in behaviour to an accident-prone one. He initiated research in Short Bros. and Harland partly along well-trodden paths of longer-term sickness absence,<sup>46-48</sup> but partly also breaking new ground by focusing on absence of one and two days’ duration. In 1956 he had written a perceptive article<sup>21</sup> on the causes of absenteeism based on his everyday experience: now he planned to replace subjective opinion with objective fact. But almost at once, in 1957, serious family illness intervened and he asked me to take over the study. I extended it to other occupational groups and signed it up for my PhD thesis, with Smiley as one of my two supervisors.<sup>4</sup> When I later published the material<sup>49-54</sup> Smiley declined any recognition beyond a simple acknowledgement. Perhaps he didn’t like what he read! I prefer to think it was his high professional probity and personal altruism so different from some department heads who consider joint-authorship almost a *droit de seigneur*! His influence on the swing of ideas in the subject was far greater than his one short article<sup>21</sup> would indicate. I welcome the opportunity to put this on record.

#### *The early factory inspectorate*

Smiley’s byssinosis research sparked a brighter flame within him than did the increasing aridness of statistics-encaptured accident or absenteeism studies.<sup>41</sup> It also fired his other interests, and increasingly his mind turned to the evolution of

his specialty and to rehabilitating those Ulster doctors who had contributed to it; less and less did it turn to occupational clinical problems; and least of all to any numbers game! Personal experience, charitable outlook, love of country, a keen sense of intellectual inquiry, and strong Christian principles were his inspirations. One article in the nineteen-forties<sup>17</sup> (on “incentives”) and two in the fifties,<sup>20, 22</sup> (on the wider role of the occupational physician) exemplify his broader vision. The human outrages of early industrialisation offended him deeply: G D H Cole, the Webbs, the Hammonds, and R H Tawney were his favourite historians; Arthur Bryant his favourite villain. “It astonishes me”, he wrote, “that Sir Arthur Bryant could entitle his book on the period [1810–1820] ‘The Age of Elegance’ — a period which the Hammonds felt impelled to call ‘The Bleak Age’”.<sup>26</sup> His deep involvement in Methodism, a denomination intimately associated with the emerging industrial society, made his mind and soul fertile seedbeds from which the flowers of his social and occupational interest, involvement and concern grew. The great wealth of material he had assembled for his Scott-Heron Lecture<sup>24</sup> and which (as we have seen) was surplus to immediate requirement, was expanded into his BMA McKenzie Lecture given in Dublin in July 1970.<sup>26</sup> This is a scholarly, perceptive, and sensitive work of wide culture, conviction, and erudition, and places Smiley above that populous class of doctors who in later life turn to the provenance of their specialty but who have seldom the scholarly detachment or the analytical and interpretative facility to do more than tell a story, marshal facts, or reminisce, worthy though these are. History, including contemporary medical history is much more than this,<sup>55</sup> and though Smiley made no claim to occupy the historians’ sanctum he has claims to dwell in their ante-chambers. He is one of the few among my medical colleagues who could centre his thoughts on historical issues rather than on institutions or people, though these latter were seldom off his stage. His scholarly qualities are nowhere more evident than in his McKenzie Lecture.

#### *Occupational medicine in Ulster*

For 16 years after his McKenzie Lecture (1970) Smiley wrote nothing in professional journals. He was by now well into his sixties and while still professionally busy his leisure interests were turned into the more usual channels of a man emotionally secure in a happy, cohesive and growing family, and at peace with himself. But with the years his thoughts, as is common, though international in cast turned increasingly to his native land. For he was rooted in the soil (of County Down) in a way which the journeyman and metropolitan *bourgeois* can only fumble to appreciate in the abstract but can never experience. His Ulster medical heritage absorbed him: he wished to throw open the minds of his colleagues to the importance and impeccable motivation of the best of their medical antecedents and to the nobility and durability of our common calling. When nearing 79, he submitted to this journal a paper on Andrew Malcolm and C D Purdon,<sup>27</sup> in their polymathic role as pioneers of occupational medicine in Belfast. The Purdon family in particular with its central authority, wide achievements, traditions and sense of continuity, intrigued him more than did the precocious genius of Malcolm and he saw them as embodying much that was laudable in the nineteenth century Belfast profession.

The following year, John Logan, who with Smiley had pioneered the modern study of flax byssinosis<sup>43</sup> and was then, as now, Archivist to the Royal Victoria

Hospital, asked Smiley to place on record his unique knowledge of occupational medicine and its practitioners in Ulster. Smiley, now 80, agreed though in failing health, and he submitted the manuscript of some 6000 words only weeks before his death. It was published posthumously.<sup>28</sup> It is a fitting epitaph: the brisk narrative style, lucidity, and coherence of themes belie his years: nowhere in his writings are they better displayed. His memory, the vulnerable flank of venerable age, is faultless, and if his physical health was failing his intellectual grasp was not. Taking the 1938 Northern Ireland Factory Act as a natural starting point he parades, in telling *cameos*, the leading Ulster occupational physicians of the past half-century, with (as a *continuo*) a lively narrative of the development of the specialty, all presented with insight, authority and balanced judgement, and without flippancy, self-importance, sentimentality, lachrymose nostalgia, or smug anecdote which mar so many reminiscences. As a short primer of the cardinal points in the development of the specialty in Ulster over the past half century it cannot be bettered; as a tribute to his colleagues it is chivalrous and generous though without crass deceit; as a personal testimony it stands well in the *genre*. Those who wish to learn of the man through his opinion of others could do no worse than start here.

### *Epilogue*

I have on occasions invited colleagues of venerable years to record their experiences, even on tape, before they are lost forever. Some have declined; others have demurred until it was too late; the enthusiasm of yet others was not matched by what the history-taker calls "reliability of recall". Among Ulster contemporaries the memoirs of Sir Ian Fraser,<sup>56, 57</sup> Bill Strain,<sup>58-60</sup> and Jim Smiley are noteworthy, if very different in focus of interest and style, though Smiley, as I have tried to show, was also a significant researcher. When his posthumously published memoir<sup>28</sup> was safely submitted I know that he was ready to die content.

Smiley concluded an early article<sup>20</sup> with the following words:

'Occupational medicine as a vocation beckons to it technically good doctors, generous in their sympathies, liberal in their sentiments, humble in their ignorance, adventurous in their seeking, and courageous when, as sometimes happens, they are misunderstood by those whom they serve'.

This is as good a self-portrait as Rembrandt ever painted.

The Smiley family generously endowed an annual lecture and gold memorial medal in 1988 and I am indebted to them and to the Faculty of Occupational Medicine for inviting me to give the second Smiley Lecture. Dr J S Logan kindly suggested improvements to this article in draft.

\*Since this article was written, Dr Brian Beattie (MB, Q.U.B. 1960) has been elected President of the Society of Occupational Medicine.

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