ET Craig’s long life spanned almost all of the 19th century. Coming from a working class background, his political sympathies lay on the left and he immersed himself in the leftist political movements which were popular in the British Isles at the time: from the early Labour Movement, (he was present at the Peterloo Massacre in 1819), to Owenite Communities, the Co-operative Movement, and the birth of modern Socialism. He is best remembered as the Secretary of the Ralahine Community in Co Clare, Ireland, from 1831–33. This is seen as the most successful of all the Owenite Communities, and may have become a paragon for the Kibbutz Movement during the 20th century. Craig was primarily a journalist but, with evangelical zeal, he immersed himself in many projects of disparate scientific pedigree, including Public Health engineering, Phrenology, Mesmerism, vegetarianism and fresh-air faddism. He made significant contributions to ventilation and sanitary engineering. His ash closet system of sewage disposal, which he introduced at Ralahine, may have saved the Community from cholera. It was eventually adopted widely, and most notably by the city of Manchester. There is good evidence that Craig’s ideas were pirated by an employee of the Manchester Corporation. The ash closet system was soon superseded by the water-carriage system.

ET Craig was born in Manchester, England, on August 4, 1804. One biographer states that:

‘No one ever knew his Christian names as he always insisted on initials only – a slight quirk, but nevertheless typical of Craig – he could never denounce religion: he kept his doubts to himself.’

The fact that his first names were Edward Thomas does not seem to have been a too closely guarded secret. After losing his Father when he was just 4 years of age he was sent to his paternal grandparents in Lancaster. As a youth he would have been aware of the trials and execution of the Luddites who vandalized industrial machinery to protect manual jobs.

Craig (Figure 1) returned to Manchester in 1815 to learn the trade of a fustian cutter in the clothing industry, where:

‘In 1819 he witnessed the Peterloo Massacre, where 60,000 persons from various towns in Lancashire had marched, five abreast, with bands playing and banners flying, assembled to petition for the abolition of the Corn Laws, [which stopped the importation of cheap North American grain into the British Isles], and for a reform in Parliament [to give workers voting rights]… Mr. Craig saw the horrible scenes of massacre by the Manchester Yeomanry, where men, women, and children were slaughtered without the slightest pretext or sign of disorder. Eleven persons were killed and six hundred injured, and mostly by sabre cuts.’

Lord Castlereagh, the British Home Secretary, was seen as the major architect of the massacre and the incident provoked a ferocious attack from Percy Bysshe Shelley, the poet, in ‘The Mask of Anarchy’, and a much shorter, ruder, riposte from Lord Byron. In 1825 Craig was attending the Mechanics’ Institute in Manchester where he read about the Welsh Industrialist and Philanthropist, Robert Owen’s New System at New Lanark, heard him speak, and developed an interest in Phrenology after listening to Spurzheim. In 1828 Craig became fired with the New System, establishing the Fustian Manufacturing Society on the principles of profit sharing. In 1830 he became President of the small Owenite Co-operative Society, and, in 1831 editor of the ‘Lancashire Co-operator’.

Robert Owen had made his first visit to Ireland in 1822 at the invitation of progressive landlords.
He came against a backdrop of unrest precipitated by a recurrent failure of the potato harvest. When, the following year, he delivered his messianic series of lectures on Owenism in the Rotunda, Dublin, among his audience was John Scott Vandeleur, a landlord from County Clare in the west of Ireland. Owen declaimed on his favourite topic of how to establish Co-operative Communities. The seeds of Owen’s ideas must have been planted in Vandeleur’s mind at that time but they were very slow to germinate. It was not until agrarian unrest neared fever pitch in County Clare that Vandeleur was spurred into action, and without the crisis he might never have committed himself to Co-operation. To a man like Vandeleur, Owen offered a vista of peace and prosperity—a happy marriage of morality and self-interest.

Early in 1831, a house on Vandeleur’s Ralahine estate in County Clare was raided by male rural terrorists dressed as women (Lady Clare’s Boys), and Vandeleur’s Steward, Daniel Hastings, was shot dead. (There is an old Irish story, doubtless apocryphal, about Lord Shirley’s advice to his Steward: ‘Tell the peasantry that no threat to kill you will scare me.’) It was under these circumstances, and aware of the difficulty that he as member of the landed gentry would have in establishing a co-operative community, that Vandeleur travelled to England to seek a secretary for his scheme. Vandeleur first met Craig, probably on the recommendation of Owen, in a Manchester hotel. Despite his own family’s hostility Craig, along with a young wife, Mary, agreed to go to County Clare as the Secretary to the Ralahine Agricultural and Manufacturing Co-operative Association. The Ralahine estate ran to 618 acres of which 268 were cultivated, the rest being rough pasture and 63 acres of bog—which was to have a use other than solely providing fuel. The ruins of Ralahine Castle (Figure 2), which were used for accommodation during the life of the Community can still be seen from the Newmarket-on-Fergus road but the Georgian house was demolished in the 1940s.

The system of governance (a committee of nine which Vandeleur chaired and had the power of veto on new members), farm management, profit sharing and house rules, which prohibited alcohol, tobacco and gambling, were carefully drawn up by Vandeleur and Craig, and for almost 3 years it worked very well in a bed of agrarian atrocities and class war. The landowners (gentry) were responding to the problems of the post-Napoleonic war economy by converting their lands to grazing. This led to eviction of the tenants (peasantry) just as that vital staple of the peasants’ diet, the potato, failed again. Clare was then, ‘...the most disturbed and lawless place in Ireland,’ with gangs of ‘Terry-Alts’ and ‘Lady Clare Boys’ committing outrages. ‘...at which human nature should shudder.’ Within 6 weeks of Craig’s arrival four murders took place around Ralahine, and, on one occasion, he was told that an outline grave had been dug to receive his body. It is recorded, however, that after the Community’s end, there were no murders in the area for 30 years.

Owenite dogma required 500–2000 individuals for a Community to succeed: Ralahine had just 52 members in its first year and 81 in its second (Figure 3). Communication was possible because the members had some English whereas Craig, who initially had no Irish, did acquire some words and phrases. At Ralahine, special stress was placed on education, which Mrs Craig assisted in, and her husband was guided in this by his interest in Phrenology. Children slept in unisex dormitories because the Owenite plan to reorganize society was by breaking down family structure, whereas, when Communism evolved, it directed its efforts at destroying class structure: neither strategy was likely to gain accolades from the Church. Interestingly, the term Socialist was coined along with ‘Communionist’ in 1827 and by 1840 Socialism had become synonymous with Owenism.
So it was, that when Marx and Engels came to write their Manifesto in 1847, they had to resort to Communist in the title.3

To give a full account of the Ralahine Community is beyond the scope of this article: interested readers are directed to the excellent account by Geoghegan (see Ref.8); but something must be said about the innovations which were used or introduced there, for example the system of tokens or Labour Notes, the work sheets, the application of a cylindrical potato washer, something like a squirrel cage, and a potato steamer,12 the threshing machine (whose introduction may have precipitated the Steward’s murder, thanks to the Terry-Alts’ opposition to machinery),8 the horse reaping machine,10 and ‘In the school a series of simple instruments were arranged for the amusement and exercise of the children without taxing their strength too much, or exposing them to danger or accidents.’13

Craig was clearly the designer of this equipment, just as he was responsible for a monumental lavatory, which is said to have saved the Community in the 1832 cholera epidemic. In Craig’s own words:

‘Owing to the great extension of the fever and cholera around Ralahine in the Epidemic of 1832, we devoted especial attention to all the known causes likely to develop susceptible conditions in the members, by the removal and deposit in the earth of
all garbage. Another means was by the erection of an improved ash-closet. As the cleansing of a closet used for personal convenience was a disagreeable office, we devised a plan which raised the closet and seat some eight or nine feet above the foundation; and by placing a flag at a sharp angle, the deposits would fall into a box on wheels, and the soil be covered with a film of fine earth or ashes, so as to prevent the escape of deleterious sewage gases, which are the chief cause of poisonous atmospheres, and the direct origin of typhoid and other fevers analogous to smallpox and cholera. [The box on wheels was important as it could be pulled from a distance and, as local lore has it to this day, emptied in the bog.]

As evidence of the physical advantages arising from our arrangement to secure the health and comfort of our people, it was a remarkable fact that we had not a single case of sickness or death during the existence of the society, although during the prevalence of the epidemic of 1832, the people were carried off in scores by fever and cholera in the neighbourhood around us. Limerick seemed like a city deserted from the ravages of the plague and footfalls of death. Men were afraid to hold intercourse with their kindred lest they should carry away from them the seeds of disease and death. The perfect health and freedom from disease of our members were the results of combined causes – sanitary precautions, nourishing diet [vegetables, mainly potatoes {5–6 kgs/adult male/day}14], and milk8, cleanliness, and the happy cheerfulness and contentment arising from our social surroundings, dances and weekly amusements. Famishing, irritable, and miserable people are short lived, while contentment and cheerfulness are essential elements to health and length of life.11

As we shall see, Craig was describing events 50 years afterwards so he undoubtedly had the advantage of prolonged hindsight, nevertheless he may have had better sanitary advice than was usually available to a co-operator at that time. Ralahine had many visitors, including Robert Owen and John Finch, a Co-operator and journalist. Another, William Thompson, was much pleased with the simplicity and economy of social arrangements at Ralahine when he visited, and on leaving he presented ET Craig with a copy of his work on ‘Practical Directions’. Craig rather unkindly described13 Thompson’s literary style in his great work on ‘Distribution of Wealth’, as ‘prolix and redundant’. Thompson’s chapter on ‘Preservation of Health’,15 in which emphasis was placed on cleanliness, and elsewhere, the provision of water closets, would have been helpful to Craig.16 Through his friendship with Jeremy Bentham, Thompson must have been influenced by Utilitarian Philosophy which did so much to drive Public Health policy, through Edwin Chadwick and Thomas Southwood Smith, at that time.7

There is no doubt that cholera was rife in Limerick and County Clare in 1832: in the nearby city of Limerick between May and September there were 2945 cases requiring hospital treatment, with 1043 deaths;17 in the village of Clare Castle, which was ‘luxuriant in dung and pigs’, it was reported18 that faced with cholera the people were partaking in ‘barbarous acts of superstition’, while, at the castle, ‘a good deal of gunpowder’ was being exploded in the confined quadrangle.19 It was admitted that this would ‘at least change the atmosphere’, and if it had no other effect, at least the members of the garrison favoured the approach. The nature of the ‘barbarous acts’ is unclear but Longmate noted20 that, ‘Superstition, entangled with his religious beliefs, always lurked near the surface of the Irish peasant’s mind.’ Burning turf embers, ritualistically carried to seven other houses, was considered protective, as was drinking copious quantities of seawater. Whiskey was a particularly popular prophylactic, though, bizarrely, it was only administered as an enema at the Dublin Cholera Hospital.20 So why was Ralahine spared from the ravages of cholera? William Farr identified topographical differences in mortality rates from cholera (Box 1), but rather it was the self-contained nature of the Community, along with its special sanitary arrangements, which probably spared it.

Writing in 1891, Beatrice Potter (later Webb) described9 Ralahine as: ‘...the one successful experiment in Co-operative Communities.’ If so, why did it fail? Its collapse came out of the blue in November 1833 when Vandeleur ran up huge debts gambling at his Dublin Club. Craig met the debts of the Community, which amounted to the considerable sum of £25 in Labour Notes, out of his own pocket. Family lore had it that Vandeleur became a train driver in America, Craig and his wife returned to England, the Community lost any legal status, and the peasantry reverted to its old ways.8 Despite his dalliance with Co-operation Vandeleur remained an improving Landlord at heart. Geoghegan has a nice epitaph for Ralahine as having ‘the immense problem of being a brave deed in a naughty world.’8 Probably, Ralahine functioned better than any other experiments with the New System, save for New Lanark,8 because it was founded on a peasantry which was well accustomed to hard graft (toil), whose lot was significantly improved through their participation. Owenite philosophy favoured spade husbandry in an agricultural setting, irrespective of whether it was intended to relieve industrial workers or rural labourers.3 At the very much less successful Community at New Harmony in America, some of those attracted to the rural idyll were not at all well-suited to it:

‘Virginia, from Philadelphia, is very young and pretty, was delicately brought up, and appears to have taken refuge here on account of an unhappy attachment. While she was singing and playing
very well on the pianoforte, she was told that
the milking of the cows was her duty, and that
they were waiting unmilked. Almost in tears,
she betook herself to this servile employment,
deprecating the new social system and its so much
prized equality:…the cows were milked, in doing
which the poor girl was trodden on by one and
daubed by another.’3

Harrison makes the observation3 that Evangelicals
were prevented from embracing Owen’s complete
doctrine because of pessimism about human nature.

Early in the 20th century, James Connolly, the Irish
Marxist, considered the Ralahine Community to be
the embryonic form of a New Ireland.5 The most
emotive epitaph came from George Russell, the Irish
journalist and champion of Co-operation:

‘When John Scott Vandeleur gambled at his club,
he gambled not merely his own property but
what may have been a happier destiny for his
country. It is inconceivable that if the community
founded at Ralahine had developed as it began it
would not have affected the rest of Ireland.

Box 1

Altitude and Disease

In 1852 William Farr noted in relation to cholera that:

‘The people living on land of a certain elevation above the plains are not only safe from attacks of
cholera…, but they are in a remarkable degree exempt from other maladies. Their functions are healthy,
and their faculties are energetically developed. They represent the finest types of the human race…On
the high lands men feel the loftiest emotions.’1

Farr went on to make many racial generalizations of extreme political incorrectness, and although he was
well aware that water only flows downhill, he dismissed a water-borne cause in favour of the
characteristics of those who live at elevation. Farr’s findings in England were confirmed in the same
paper in a letter from WH Duncan of Liverpool. A similar conclusion to Farr’s was drawn6 one and a
quarter centuries later when Mortimer and his colleagues sought to explain a ‘reduction’ (i.e. an observed
difference) in coronary heart disease in men residing at high altitude in New Mexico in terms of
increased physical exercise. Rather unkindly, Buechley and his colleagues suggested3 that this was
confounded by the greater proportion of Hispanics residing there.
Altitude has also been employed as a means of treating disease: in 1854 Hermann Brehmer started the
Sanitoria Movement by establishing the first sanatorium dedicated to the treatment of pulmonary
tuberculosis at Göbersdorf in the Bavarian Alps.4 Interestingly, there is now some evidence that any
beneficial effect of sanatorium treatment are due to sunlight rather than fresh air.5 This effect is mediated
through vitamin D metabolism which goes to show that nothing under the sun is new: cod liver oil
gained popularity as a treatment in London at the Brompton Hospital for Consumption in the 1840s,6 and
Finsen won the Nobel prize for Medicine in 1903 for showing that UV light was beneficial in patients
with lupus vulgaris. Furthermore, the interaction of sunlight, vitamin D metabolism and the intracellular
death of tubercle bacilli seem to have a strong genetic component.5 It also neatly explains why African-
Americans are more susceptible to tuberculosis.5 Similarly it has also been established that some people
may be genetically predisposed to certain diseases and conditions associated with altitude.6

References
2 Mortimer EA, Monson RR, MacMahon B. Reduction in mortality from coronary heart disease in men
3 Buechley RW, Key CR, Morris DL, Morton WE, Morgan MV. Altitude and ischemic heart disease in
5 Liu PT, Stenger S, Huiying L et al. Toll-like receptor triggering of vitamin D-mediated human
6 Drummond JC, Wilbraham A. The Englishman’s Food: a History of Five Centuries of English Diet. (New
It might have saved us many years of tragic history.13

It may have had influences elsewhere because, Geoghegan observes,5 in 1902 the Zionist writer Theodor Herzl foresaw, ‘...thousands of Ralahines’ in Palestine. The Ralahine story became so iconic in Ireland that in 1978 a play, ‘Vandeleur’s Folly’, based on Craig’s book6 was staged by John Arden and Margaretta D’Arcy in 1978.22 One incident stands out from the entire saga to demonstrate that something had really changed. In the winter of 1832, in Vandeleur’s absence, the local hunt chased a fox towards Ralahine, but the huntsmen found their way barred by closed gates, which to their amazement the Community’s members had the audacity to shut.11

When Craig got back to England he did not immediately sit down to write his account of the Ralahine venture, in fact he waited nearly half a century before publishing his book.11 Perhaps he felt that the time had not been right, or perhaps he had some lingering regrets over the outcome of the social experiment and the situation he had been left with at Ralahine. In between Craig published letters in various newspapers and journals in the 1830s and again in the late 1870s, and he was the major source for a book, ‘Co-operative Agriculture’, published by William Pare in 1870. Craig’s 1882 work was copiously illustrated with his inventions, and prompted Garnett to ask,9 if it had been written directly after the events unfolded, would it have been spared the, ‘...hotchpotch of cure-alls with which he interleaved the final version in the garrulity of old age?’

In 1834 Craig visited the Fellenburg Industrial School at Hofwyl in Switzerland and, on his return, was invited by Lady Noel Byron (née Annabelle Milbanke), who was interested in Co-operation and Phrenology, to set up an industrial school at Ealing Grove.2 She had been the wife of Lord Byron who was said to have liked the Noel-Byron combination as it gave him the same initials as Napoleon Bonaparte. From their short, disastrous union stemmed Ada Lovelace whom Craig met at Ealing Grove. In 1843 she was to write a paper on Charles Babbage’s most ambitious invention, the Analytical Engine.23 This represented the first computer program was recognized by the US Defence Department when, in 1980, they decided to name the language it had chosen to run its military systems after her. Were Ada alive today, it would depend on her viewpoint on ‘Freedom’ whether she took this as an honour or an insult.

At Ealing Grove corporal punishment was banned and so fond were the boys of the school that they would climb over the boundary walls before school opened to get at their gardens or to feed their rabbits.4 It was here that Craig developed his Charactrograph (Figure 4), a typically Owenite teaching aid which, with coloured cubes,9 was to keep order through self discipline.2

Craig left Ealing Grove late in 1835,2 became assistant Editor of ‘The Star in the East’ the following year, advertised his ‘Phrenological Chart of the Propensities, Moral Sentiments, and Intellectual Faculties of the Human Mind’,24 and in 1838 advertised his Charactograph [sic].2 Around this time, according3 to Harrison: ‘With the unquenchable optimism of the true Owenite, Craig appeared again in another community,’ (for ‘true Owenite’, substitute ‘true Health Promoter’, today). The community in question was at Manea Fen in Cambridgeshire, which Craig visited in 1839.25 ‘The Star in the East’ folded in 184025 and Manea Fen collapsed early in 1841.2

He was now coming to the conclusion that the Communities at Orbiston, New Harmony, Manea Fen and Queenwood made the error of admitting persons indiscriminately.8 The need to supplement Owenism with something else was apparent and nothing looked better suited for this purpose than Phrenology, the ‘science’ of determining character from the shape of the skull (i.e. the shape of the brain was supposed to determine the shape of the skull).3 The term Phrenology was coined in 1815 by the English physician and naturalist, Thomas Ignatius Maria Forster, and came into general use in the 1820s.26 It was the brainchild of Franz Joseph Gall, an anatmist working in Vienna, and his collaborator, Johan Gaspar Spurzheim. Phrenology was popularized in Britain by George Combe. He was the brother of Abram and Andrew Combe who were both staunch Owenites. Abram founded the Owenite Edinburgh Practical Society in 1821, 2 years after brother George had started pouring out phrenological publications.3

In 1828 George Combe published his ‘Constitution of Man’,27 with its flavour of scientific naturalism, and it became so popular that it ran to 135 editions, vastly outselling Darwin’s ‘Origin of Species’ in the second half of the 19th century.26 It furnished lay people with an attractive way of identifying their own gifts and classifying faults in others, and was the only accessible physiological psychology of its time, challenging accepted knowledge and even religion (Box 2).26

From the early 1840s to 1856 Craig turned his attention to public teaching, and as a lecturer on Co-operation, Phrenology, Psychology and similar subjects, including Physiognomy,1 (Box 2) he visited nearly every town in England.4 He believed that Phrenology was the missing link which would have rendered Owen’s plans achievable.3 He also became interested in Mesmerism, or Animal Magnetism, entertaining the possibility of thought reading and transmitting mental images, and included it in his repertoire. The Father of Mesmerism, Franz Anton Mesmer, was born in Austria in 1734 and first put forward the concept of Animal Magnetism in his paper ‘Concerning the Influence of the Planets’28 in 1776.
In 1843 Craig was invited to Edinburgh by George Combe and James Simpson, a writer on education. Two committees were established to vet the experiments which included one to demonstrate that feeling could be suspended, so that surgical operations could be performed painlessly. A young man, rendered insensible to pain, had a ‘double tooth’ extracted by Robert Nasmyth, Surgeon-Dentist to the Queen. It seems that Craig had mastered Hypnotism, a term coined by James Braid, a Scottish doctor in the 1840s. One objection from a local newspaper was that scientific men of modern Athens could submit to be taught scientific facts by a ‘Southroner’. Some publishers invited Craig to a supper and employed a very clever artist to paint his portrait on his thumb-nail (sic). The result was the 'Edinburgh Cartoon' (Figure 5).

Craig was afterwards told that Dr Simpson had adopted his methods with certain patients; subsequently, as is well known, he used chloroform for the same purpose, and was created Baronet. Craig felt that his experiments produced so much opposition and misrepresentation that he established ‘The Annals of Mesmerism’ as a counter.

Over this period, after the collapse of Harmony Hall, Owenism was in sharp decline. This did not affect Craig, as he became Principal of Rotherham and Mexborough Mechanics Institute, and took over the Editorship of ‘The Leamington Advertiser’ in 1858. Twenty years later he was to claim that he had been editor of six newspapers. One account of why he gave up being an itinerant lecturer on Phrenology and Mesmerism blames his wife’s health, another his own. While Editor of the ‘Oxford University Herald’ he decided to publicize his plans for perfect ventilation. He also railed against rainfall ever being mixed with sewage; the first should go to the river and the last to the soil. He actively champions the ash closet approach to sewage disposal, which he had used at Ralahine, over the water closet system recommended by William Thompson, but now at a national level. In the late 1860s he lectured and published on these issues: ‘Manure (‘human guano’) is the mother of meat, and every particle of it should be returned to the land,’ and decried water borne disposal for polluting drinking water and spoiling manure for tillage, and vexed over the evils of defective ventilation. In this publication Craig,
Box 2

Phrenology

**CAPACITY AND CHARACTER DEPendant ON ORGANISATION AND TRAINING.**

Source: Ref. 1

Phrenology claimed that palpation of the skull enabled underlying mental traits to be determined. The bumps of the head allowed a person's moral and intellectual character to be assessed with scientific accuracy. It offered an alternative to metaphysical explanations of human behaviour. Above all it was eminently democratic, since particular bumps were not the monopoly of any one section of society; it seemed to point the way to a truly rational organization of society. It became immensely popular as the 19th century proceeded, but by the 1870–80s, it was canonized as the archetypal 'pseudoscience' by the likes of Thomas Henry Huxley.

It was not to be the first false dawn in the assessment of human character and humankind's past. Previously there had been Physiognomy, which originated in India and, in Europe, first gained popularity in Italy. It involved the 'art' of judging character and disposition from the features of the face. By the beginning of the 18th century it had become, simply, a laughable, if amusing, game, although it did stage a comeback. Linnaeus' 18th century racial classification of *Homo sapiens* into: *americanus, europaeus, asiaticus* and *afer*, which Blumenbach later modified to include *Caucasian*, has always given problems. Mesmerism, when coupled with Phrenology, was also considered informative, and, at least, one of its components, Hypnotism, actually had a real effect. It is interesting that Mozart knew Mesmer, and, if he had been hypnotized by him, his scatological disorder, which was probably Tourette's Syndrome, might have benefited. In any case, Mozart lampooned Mesmer, as 'Dr Magnet', in the first act of 'Così fan tutti'.

Mesmerism was eagerly adopted by the Owenites who combined it with Phrenology in the form of Phreno-mesmerism, but this did little to halt the decline of Owenism. Strangely, in an otherwise excellent book, van Whye makes no mention of the combination of Mesmerism with Phrenology.

Physical anthropology also enjoyed its vogue: Seligman's *Races of Africa* in 1930 came to some questionable conclusions; and the Harvard Anthropological Survey of Ireland, led by the Peabody Museum, which surveyed 10 000 subjects in the 1930s, confusingly found the 'Keltic' type to be uncommon among native Gaelic speakers and was best represented down the east coast rather than the west, where it was expected to be most frequent. It also provided other dubious insights, such as 'The hair shows a difference between Protestant and Catholics. 44 percent of Protestants have straight hair, and only 28 percent of Catholics; the most numerous category in both groups, however, is low waves.' The same group was also involved in the Study of Adult Development which purported to demonstrate that weakness in the 'masculine component' is significantly more frequent in smokers than in non-smokers and most frequent in the heavier smokers. This may explain why the Marlboro cowboy came into being. The statement by the doyen of physical anthropology, Carleton Stevens Coon in 1939: 'For a systematic investigation of their own people, the palm is divided between Norway and Germany; in the latter case it goes especially to the editors and authors of the Deutsche Rassenkunde (racial study)', does not inspire confidence in the discipline.

Linguistics also proved disappointing: some languages may have been instilled at the point of a spear. The study of blood groups and the distribution of mutations proved more enlightening. We are now in the era of DNA fingerprinting, which, judging by the enthusiasm of some governments and their police forces to promote it, must be extremely informative.

(continued)
no doubt using his Oxford Editor's privilege, did not squander the opportunity to advertise his, 'Chest Developers and Generators of Vital Warmth for the Promotion of Health, Strength and Beauty of Form', (See the end of this text for examples).

At the Working Classes' Industrial Exhibition, held at Cambridge in 1873–74 (Figure 6), Craig was awarded the top prize, a silver medal, for the greatest number of useful inventions, 27 of which were itemized in the 'Official Catalogue' (Box 3). From the list of inventions it is clear that Craig has now nailed his colours to the mast as a Public Health Engineer. The first exhibit (163) was a ventilator for railway carriages, and (184) a 'Model of ash closet with plan for ventilating ashpits and cesspools'. Exhibit 183 was a 'Working model of Craig's separating ash and earth closet, with new movement'. Among the more intriguing items were: the 'Flower-pot converting to a fire escape', (167) (Domestic fires were such a hazard then that there was even a Royal Fire Escape Society\(^3\)\); the 'Portable, folding bath' (170); and, the 'Ventilating sunshade' (178). Exhibit 189 was our old friend the Charactrograph, which had been shown at the Great Exhibition in 1851 (the Official Catalogue confirms this).

Craig lectured on 'Health and Ventilation' in a large room in Paradise Street, and illustrated his talk with several experiments, which drew applause. By this time his ash closet system was in use in Manchester, Salford and other cities and towns, and his ventilation system for public buildings was in use in Manchester, Oxford, Buckden Towers, at the Pitt Press, Cambridge, and elsewhere.\(^{33}\) Craig's preoccupation with sanitation and ventilation was, no doubt, driven by Miasmatic Theory and the Sanitoria Movement (see Box 1).

This is where the tale takes a twist. It seems that Craig was one of those 'geniuses' who was good at everything except making money.\(^{25}\) Because the cost prohibited Craig from patenting his inventions, they were stolen. After the Cambridge Exhibition the plan of one of the fire escapes was pirated by a man called Hill, and actually exhibited before Captain Palin, Superintendent of the Manchester Police.\(^{25}\) Even before the Exhibition the plans of the ash closet were stolen by a man who wanted to be Craig's partner to ensure the sale of the invention. Craig was not keen so the man sent a third party, a mutual friend from Manchester to intercede, and he was given sight of the plans:

‘In less than three months after, the Ash-closet was sold for £300 to the Shaftesbury Park Estate, as a patent invention of the vendors. An improvement was made upon the first plan and shown to the Members of the Coöperative [sic] Central Board in Manchester. Among them was a servant employed by Manchester Corporation. He was gratified by the invention and recommended Mr. Craig to make his plan known by public lectures. Before there was time to make arrangements for the lecture, Mr W_____ had got a joiner

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**Box 2 Continued**

**References**

in Hulme to apply the plan to the Ash-middens of Manchester, and then induced the Sanitary Committee to adopt the system as his invention, to the exclusion of others. This was done and, and many thousands of pounds have been expended upon the application of the plan. The pirate was looked upon as a "genius" by some, and had his wages increased from a small sum to £300 a year which he has since enjoyed, while Mr. Craig has lost his labor [sic], his skill and his money, without any compensation. 4

It is impossible to say at this distance just who the culprit was, but a cloud of suspicion hangs over Henry Whiley, who was said to be: "Whiley by name and wily by nature." 34 Whiley, who was active in the Co-operative movement, 35 became Chairman of the Manchester Section of the Central Co-operative Board in 1873. Craig had suggested setting this up in 1866, and it contributed greatly to the success of the Co-operation Movement, 3 which represented an attenuated version of his aspirations. Whiley was a trained agricultural engineer, and took up employment with Manchester Corporation as an assistant surveyor and sanitary inspector in 1865. He lived at Medlock, which adjoins Hulme, where George Whiley & Co were Timber Merchants in the early 1870s. In 1875 Whiley was appointed Superintendent of the Health and Nightsoil Department at a salary of £300 (eventually rising to £600) and given the responsibility of developing the city's manure manufacturing process. 36

Manchester, as ever practical, had done its sums: it was calculated that, "The annual produce of an average individual being 10 cubic feet (0.35 cubic metres) of excrement." 37 Despite Manchester's impeccable Co-operative credentials, the city was determined to capitalize on its citizens' waste products, but, after all, this did represent a co-operative effort. The process aimed to render the mixture of ash and faeces inoffensive, more compact and transportable in bags. Sulphuric acid was used to fix ammonia.
Whiley’s career was dogged by accusations and inquiries. In response to the charge that departmental funds had been used to purchase whisky which was passed off as ‘Horse Medicine’, Whiley’s reported response was that Irish whiskey was kept to treat horses suffering from certain (unspecified) complaints. Serious charges were never proven by the Corporation.

Things eventually caught up with Whiley, but from a different direction: the Heckmondwike Co-operative Society which obtained a judgement against him on account of his connections with the Union Land and Building Company. The company styled itself as builders, contractors, plumbers and gas and water fitters; its Trade Directory entry for 1871–72 stated that it was an agent for Morrell’s dry Ash System. James Conyers Morrell patented plans for ash closets in 1867 and 1870. Craig probably developed his working plan between 1866 and 1867 (which can be assimilated from Refs 30, 31), so this may have been the route by which his ideas were abducted.

The Patents do not mention ventilation but the excrement receptacle box is fitted with wheels. A prototype ash closet design introduced in Manchester in 1868 was also fitted with wheels and a brick flue for ventilation. Three designs were instigated by John Leigh, Manchester’s first Medical Officer of Health, who was appointed that year. In the absence of Craig’s plans it is impossible to gauge the degree of similarity. Alternatively, Whiley may have pirated Craig’s ideas to gain kudos with his employer. In 1887 it was still being asserted that Craig had ‘invented the cinder-sifting ash-closet which is now in use by the Corporation of Manchester.

In any case Manchester opted for a privy system, driven by concern, ‘that an epidemic of some kind or other is becoming only too frequent in Manchester,’ and, ‘the loss of so much valuable manure and the pollution of the river which receives it.’ The system consisted of pail closet, a cinder sifter, ash closet mechanism and a flued method of ventilation which the city did not pay any royalties on. The ash came from the domestic fires, which, in any case, would have required disposal. By 1872, 2500 had been introduced in the city with a population of 400,000, by 1888 the number had increased to 66,499. By the late 1880s the sale of Human Guano had become big business (Figure 7).

It was then that Manchester decided to follow the rest of the country and opted for a water-carriage system; the process was virtually complete by the onset of the First World War.

After the Cambridge Exhibition, Craig moved to Hammersmith in London. In 1876 he gave up his ventilation engineering business after an attack of bronchitis and focused his energies on longevity. He recommended applying a one pound shoemaker’s hammer to larger muscles, and an ox’s rib to rouse and stimulate the arteries. Warm ivory tablets could be applied to the stomach, and boxwood rollers to all parts. On his European trip in 1834, Craig visited Baden-Baden Mineral Baths and claimed he had discovered a means of abstracting carbon dioxide from the blood which he thought could cure a wide range of diseases. In 1886 he was still smarting over people stealing his ideas, and he had found, ‘even among educated men, a tendency to view any new discovery or truth with prejudice and opposition.’ He stated that he ‘is at present and has been for the past nine winters a poor, bedridden journalist.’ Happily Mary was still alive the following year but her ‘long watchings’ over her invalid husband had ‘rendered her unable to continue her household duties’.

Land and Ireland were burning issues in the 1880s and Craig published ‘A Remedy for the Pacification of Ireland’, which, naturally, involved Co-operative farms. In 1882, his book on Ralahine appeared and received 200 press notices, mostly favourable. Arguably its impact was increased by the long delay, although there were some discrepancies with Craig’s

Figure 6 Cambridge exhibition official catalogue
earlier writing about Ralahine. Perhaps the impact would have been greater without the illustrations for 'cure-alls' (Figure 8) which tended to identify Craig as a crank.

By this time Craig was one of the last of the Owenites and the patriarch of Co-operation. He became a member of the Hammersmith Branch of the Social Democratic Federation in 1884. This had been founded 2 years before by HM Hyndman, and William Morris, the leader of the Arts and Crafts Movement, joined it the next year, perhaps a slightly bizarre departure for a man who, through his firm, Morris & Co., had, in his own words, spent his life 'ministering to the swinish luxury of the rich.' Together they published 'A Summary of the Principles of Socialism', with its sumptuous Arts and Crafts binding, in 1884.

Other members of the Branch included the Irish Playwright and Essayist, George Bernard Shaw and Craig's old friend, the Co-operator James Hole. Later in 1884 Morris broke away from the Federation and founded the Socialist League. Craig represented a link with the old, Owenite brand of Socialism, and the modern Socialist Movement. He was in demand for his reminiscences of Peterloo, and according to Morris' daughter, May, he had been 'a sturdy and valiant fighter' and would:

‘...make speeches in a fife-like voice which sometimes recovered its old chest register in a sort of bellow that beat upon one's ear-drums.'

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**Box 3**

**CATALOGUE**

I. Industrial Section.

163 E. T. Craig, Journalist and Ventilating Engineer, double action purifying ventilators, on a new principle for railway carriages; made by inventor

164 – Railway passengers' signal, when opened cannot be closed on the inside; made by inventor

165 – Railway carriage, 1 in. to the foot, to illustrate the above principle, moveable seats and mattress [sic] for long distances

166 Family fire escape, with double web sliding girders, for slipping over the head and under the arms; spliced and made by inventor

167 – Flower-pot stand for window-sill, convertible into a family fire escape; made by inventor

168 – Two window blind fire escapes for adults and for nursery

169 – Cooling ventilator, without direct draught, for crowded assemblies

170 E. T. Craig, Journalist and Ventilating Engineer, portable bath for folding up into portmanteau; made by inventor

171 – Double bath crystals; made by inventor

172 – Chest developers in wood and iron, and in wood and lead

173 – Physiognominal flower vase; modelled by inventor

174 – Composite model sash window frame

175 – Perfect purifying ventilator, without draught, dust or dirt

176 – New arrangement of the upper sash to give a larger volume of fresh air, ventilating brackets, &c., as in use in the Hall

177 – Purifying ventilators for printing offices, with night gas, &c., and for drawing and bedrooms

178 – Ventilating sunshade

179 – Family safety fire escape by friction pulleys, with bar and block always in position on window frame

180 – Fixed glazed brackets, brass stop for sash, and double brass pulley

181 – Outlet ventilator, self-acting, and wall ventilator

182 – Cottage window-pane ventilator, without draughts

183 – Working model of Craig's separating ash and earth closet, with new movement

184 – Model of ash closet with plan for ventilating ashpits and cesspools

185 – The working man's purifying respirator, for molten metal pourers, file grinders, &c., and for ordinary use

186 – Model of four-storied house, with inlet and outlet shaft ventilators

187 – Model of a room, to illustrate perfect and defective ventilation

188 – Domestic gymnasium

The above, nos. 163 to 188, were all invented by exhibitor and have never been exhibited

189 – The moral and intellectual charactrograph, designed to supersede corporal punishments, place-taking, and prizes in schools, &c.

Invented by exhibitor and exhibited in the Crystal Palace, Hyde Park, 1851
He would come and sit in the garden at Kelmscott House in Hammersmith and we would gather round him to hear tell of those old Co-operative days, or listen to his expositions on phrenology. I remember one time we were having our characters described by the bumps on our heads, Shaw, who was one of the company and also undergoing examination, naughtily asked if he had a bump of veneration. ‘A bump?’ shrieked the old gentleman, ‘why it’s a ‘ole there!’ and struck his stick into the earth to emphasise the answer.47

In 1888 Craig became President of the Phrenological Society.2 He had published many papers on the subject down the years, including ‘Phrenological Sketches of the Prince and Princess of Wales: with Observations on their Physiological and Physiognomical Characteristics’ (1863), and ‘Shakespeare’s Portraits Phrenologically Considered’.48 In 1891 came the 60th anniversary of Ralahine and as late as 1893 he could still be found on the platform of the Hammersmith Club Room with a grey shepherd’s plaid round his shoulders and a huge ear trumpet, with which he gesticulated so forcibly, that Morris and the speaker had to throw themselves back to avoid being struck by the weapon.49

Craig’s long life came to an end on December 10, 1894,1 having spanned the 19th century and witnessed so many changes. He died appropriately at Ralahine Cottage and was buried at Hammersmith. William Morris dedicated2 an ode to ‘Old Craig’, as he referred to him.50 Mary survived him, but there is no indication that they had any children, although in those days the man’s family was often ‘invisible’. Craig’s obituary in the Manchester Guardian states51 that Mr and Mrs Craig celebrated their Golden Jubilee in 1883, which, if correct, means that they were unmarried when they went to Ralahine.

Craig’s life has been written up before but this is the first account to concentrate on his contribution to Public Health. Apart from his Charactrograph, which was an amusing diversion, his work on ventilation

Figure 7 Newspaper advertisement of 1888 for human guano (Source: Alan Wilson)

Figure 8 The chest developers—A manual of operations (Source: Ref.9)
and sanitation were undoubtedly important contributions, and in common with his Socialism, all were intended to improve the lot of the common people. His arguments against the water-carriage of sewage were sound in the absence of effective sewage treatment. This is now so advanced that, since 1969, a proportion of the drinking water of the city of Windhoek, Namibia, has come from treated sewage: ‘Water should be judged on its quality, not on its history.’

Never-the-less, Craig developed a system, which coped with the sanitary needs of a large city, but his was a technology which was being rapidly superseded. In 1897 it was stated that the arguments in favour of water-carriage over ‘conservancy’ seemed unanswerable. The conservancy system would have been extremely labour intensive and the production of human guano, although tolerated in the late 19th century, could have led to the problem of a build up of toxins, e.g. heavy metals, in the food chain, so, in Europe today, the practice is subject to control.

In concluding about Craig, Harrison felt that he was:

‘...an unrepentant Communitarian and a defender of Owen’s views. But it was Owenism combined with much else – everything in fact from progressive education to fresh-air faddism and dietary reform. He was still searching for a New Moral World but in the process had become almost a pathological collector of reform causes.’

Elsewhere, Harrison describes the careers of leaders of evangelical sects as suggesting ‘...a kind of spiritual entrepreneurship, with expeditions into or flirtations with, various fashionable concepts of the day: all the examples he cites were pursued by Craig at one time or another. On one hand such ‘entrepreneurship’ can be viewed as gullibly faddist, on the other hand as warmly receptive to new theories.

After all, a fad is merely a theory, which has failed to withstand the test of time—having run aground on the shoals of proof.

Craig was never involved in Trade Unionism or militant Socialism. In his long life, he involved himself with many of the ideologies of the 19th century, from Co-operation to the birth of modern Socialism, and also its fads. He was a self-made man, preached and practised self-help, self-respect and self-denial. ‘His religion was altruistic [sic], living and working for the public good.’ In old age he comes across as irascible, and according to one account, apparently a reactionary: ‘He banned drugs, vaccination and Pasteurism.’ His obituary in the ‘Co-operative News’ was still railing over the theft of his intellectual property by Manchester Corporation so a fitting epitaph for this inestimable, quixotic, character might be the motto concerning ‘Participation in Profits’ which all his envelopes bore:

WEALTH IS CREATED BY LABOR
AND EVERY WORKMAN
SHOULD SHARE IN THE PROFITS
ARISING FROM THE EXCHANGE OR SALE
OF THE FRUITS OF HIS INDUSTRY.

‘This represents old English, rather than American spelling.’

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KEY MESSAGES
- There are fashions in politics, science and technology, just as much as there are in haute couture.
- The 19th Century saw a great many of these come and go, and those which failed the test of time were subsequently dismissed as ‘fads.’
- Judging from Craig’s experience, political movements tend to progress from the idealistic to the practical, e.g. Communitarianism’s attenuation to the Co-operative Movement.

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