Psychotic patients and patent applications

The mad scientist revisited?

David V. James and Paul L. Gilluley

The clinical observation that some psychotic patients were attempting to register their ideas as patents prompted a survey of published patents. The hypothesis was that, given supposed links between creativity and mental illness, the Patent Office might be a repository of psychotic ideas. Searches were made on specific topics suggested by our patients' applications. A survey was undertaken of unusual patents in the collection as a whole, and of authors with unusual track records. Bizarre and eccentric patents were identified, but patents of the sort that our patients attempted to register were absent. Possible explanations for this result are discussed.

Musings on the relationship between creativity and madness have a long history, both in the arts and the sciences (Kessel, 1989). It has been suggested that the level of psychiatric abnormality in creative people is so high as to constitute evidence of a causal link (Andreasen, 1987), and many authors have pointed to a link between affective and manic–depressive disorders and creativity (Hare, 1987; Jamison, 1993). Most such work is based upon the study of creative people, either living or dead (Post, 1994). Another perspective from which to consider the issue of a connection between invention and abnormal mental state is suggested by an observation from clinical practice, where fanciful notions of new discoveries and inventions are sometimes encountered in those suffering from schizophrenia or mania. In one clinical practice, four patients had made efforts to patent their discoveries: an inflatable moon buggy, the designs for which were also sent to NASA; a cure for all known cancers and AIDS, which was concocted from commonly available household ingredients; a formula for time-travel; and a method of producing cold fusion in a test-tube, covering less than a side of A4 paper, an idea not dissimilar to that in a paper published not long before by reputable scientists. The question followed as to whether the Patent Office might be a repository of 'mad ideas', and an investigation was undertaken. The hypothesis was that, if the creative have a tendency to madness, or the mad a tendency to creativity, then this ought to be reflected in the inventions registered at the Patent Office.

The study

An investigation was undertaken of published patents, with the assistance of the Patent Office and staff at the British Library. This was structured in the following manner. First, patents were sought on individual topics, which appeared unusual, such as those chosen by our patients. An extensive survey was undertaken of odd inventions in the library of patents as a whole; and an attempt was made to explore the work of individual inventors with unusual track records.

Several thousand patents are published in the UK each year (5161 in 1994). They are held at the Patent Office, and can also be inspected at several large libraries around the country, together with patents originating in other countries. The files at the Patent Office are difficult to search, as computerisation has not so far reached the repository of invention. Searches have to be carried out manually. A 'catchword' is first sought in order to establish the relevant code for a broad category. This is then subcategorised, producing further codes. Each of these has then to be sought individually for each year that it is proposed to search. This gives a list of potentially relevant patents. Once identified, these were sought out in the relevant volumes, and photocopied for further consideration.

Findings

A search for specific topics

A search was made of British patents for inventions relating to the unusual ideas suggested by our patients' efforts: space travel, time travel, cures for AIDS and cancer, and new energy sources. No unusual patents were identified.

https://doi.org/10.1192/pb.21.12.764 Published online by Cambridge University Press

A survey of unusual ideas

The overwhelming majority of patents contained nothing of relevance to the subject under investigation. It did prove possible to identify more than 100 patents in the files which appeared odd or eccentric in content. Approximately half of these related to 'bodily functions', and appeared simply to reflect the neurotic concerns of the individual or the age. The remainder included eccentric but feasible ideas, and some that appeared bizarre and unworkable. The following examples give a flavour of this aspect of the files.

There may be no time machines, but time is a common theme. From 1985, there is a '*Twenty-five Hour Clock*', which operates in a twenty-four hour day and has an optional second hand which is driven around the clock face 'in 24/25th's of a real-time minute'. A 1991 patent describes '*A Watch for Keeping Time at a Rate Other than Human*'. This looks like an ordinary watch, but is for 'keeping time at an animal's rate, defined in terms of a multiple of human rate by dividing the average life-time of a particular animal into the average life-time of a human being'. Those more concerned with the life-time of human beings could turn to the '*Life Expectancy Timepiece*'. This is a 'timepiece for monitoring the approximate time remaining in a user's life'. The display counts down towards zero. Less macabre and more practical are devices for waking people from sleep. A 1977 patent concerns a '*Cold Air Blast Wake-Up Apparatus*', which blasts cold air underneath the bed-covers at a prefixed hour. The patent, from the USA, does not explain why anyone might wish to be woken in such a fashion.

An American patent describes a '*Pat on the Back Apparatus*', which is a 'self-congratulatory apparatus having a simulated human hand carried on a pivoting arm suspended from a shoulder supported member'. A variant would appear to be the '*Baby Patting Machine*'. This is an electrically driven rotating arm with a soft pad on one end, which is fixed to the side of a cot and which puts the 'baby to sleep by means of periodic pats upon the rump or the hind part of the body' (Fig. 1). There are a number of novelty garments, such as the '*Two-Handed Glove*', which allows a couple to hold hands inside the glove; this comes with full knitting instructions. Animals figure, both real and simulated. A patent from 1980 describes '*Animal Ear Protectors*', which are tubular sleeves for putting around the ears of long-haired dogs to prevent them trailing in their food (Fig. 2). There is a patent for a '*Toy Birthing Apparatus with Chugging-like Delivery Motion*', essentially a toy dog with a simulated birth canal and a mechanically-driven piston which expels baby dogs therefrom

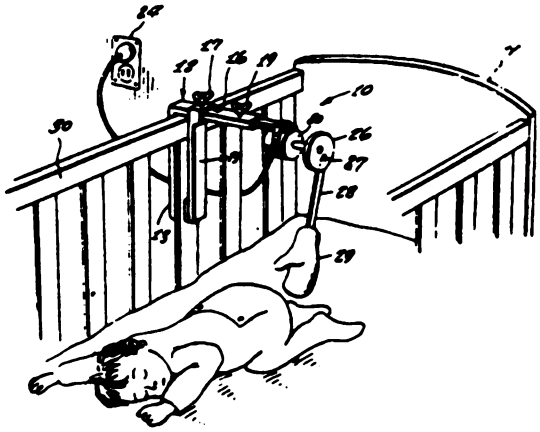

Figure 1. Baby patting machine.

(Fig. 3). Another design involving dogs is a carrying device (Fig. 4). A 1984 American device patent is entitled '*A Method for Growing Unicorns*'. An Englishman in 1994 patented a '*Spider Ladder*', which comprised a thin rubber strip, which could be attached to the wall of the bath by means of a suction pad, and extended to the plug-hole, so allowing trapped spiders to escape. In 1902 a patent for an '*Eye Protector for Chickens*' was filed (Fig. 5). This is in the tradition of earlier British patents, such as the 1894 '*Apparatus for Restricting the Flight of Golf Balls when Struck*'. In brief, this entails the attachment of small linen parachute to each ball. A 1954 patent concerns a '*Duck Retrieving Device*'. This comprises a dual umbrella and arrow with a string attached, the umbrella being opened after the arrow has been fired to the approximate position of the duck with the aim of scooping it up. Umbrellas also feature in a patent from a Taiwanese group, the '*Fire Protection Umbrella*'. This is made of asbestos cloth, coated with fire-resistant paint and covered with fire-protective ceramic elements. It has a built-in torch, in case smoke darkens the room.

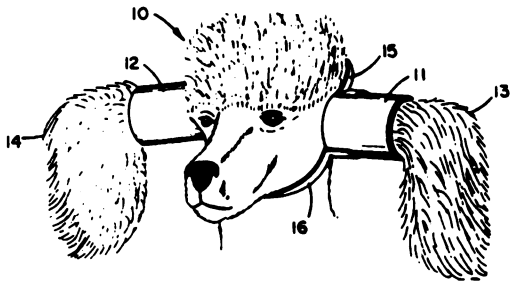

Figure 2. Animal ear protectors.

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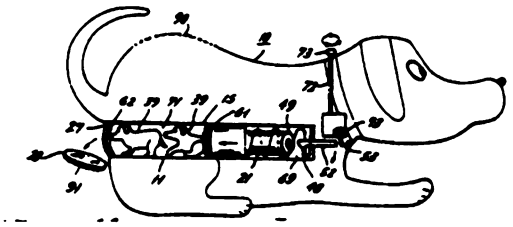

Figure 3. Toy birthing apparatus with chugging-like delivery motion.

The umbrella ribs are specially strengthened, 'so that the umbrella may be used as a parachute to help the user escape from a high-rise building'. It seems unlikely that this device was ever subjected to field trials.

A survey of unusual authors

This was limited to the British collection. Although scores of patents appear to be the product of unusual minds, authors who produce a series of unusual or idiosyncratic inventions appear to be rare. The following example concerns one such inventor, who had produced and published nearly two hundred patents in the 1960s and early seventies. All his patents are knowledgeable, closely reasoned and carefully set out. The early content is unremarkable, but as time progresses, the ideas become gradually more far-fetched. A 1972 patent, accompanied by twelve complex diagrams, concerns '*Vacuum Tube Trains for Fumeless High-Speed Overland, Supra and Submarine Transport of Animate and Inanimate Loads*'. This appears novel, but the drawing of tunnels suspended above Tower Bridge does lead one to assume that the author

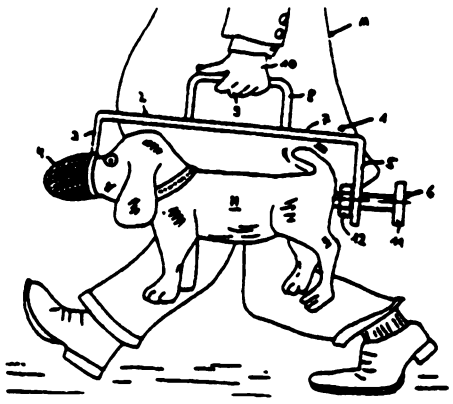

Figure 4. Dog carrying device.

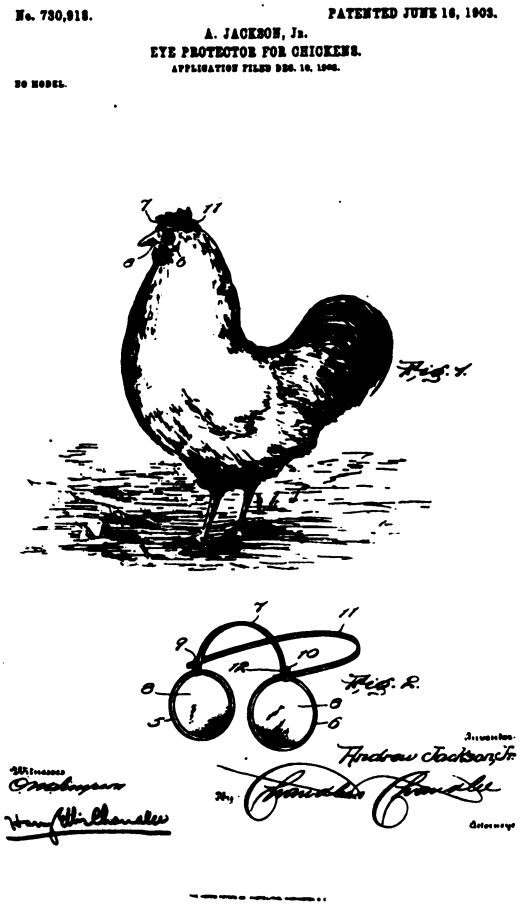

Figure 5. Eye protector for chickens.

is either eccentric or trying to poke fun. In '*Propelling Cars without Petrol or Gasolene*' a tracked vehicle is described, the track being moved in treadmill fashion by a horse positioned behind the passenger compartment. This is called by the author 'putting the cart before the horse'. The cat makes his first appearance in an illustration from a patent of the same era concerning '*Improvements in the Construction of Automobiles*'. This contains descriptions of novel travelling positions, including the prone, which give driver and passenger a clear view of the road ahead, so being in a good position to avoid the said feline in its middle.

By 1974, the cat is no longer simply an illustration, but has become a co-author of the patents, such as that for '*Improvements in Centrifugal Nuclear Disintegration*, or '*Streaked Nuclei' Reactors*'. These 'CND' reactors concern processes where 'the nuclei are in a high temperature plasma with their electron clouds

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or shells stripped off, i.e. the nuclei are 'in the nude' ot 'streaked". The author's Ginger Cat challenges conventional views of the nature of the nucleus, stating: 'It is the World's Physics Books which are incorrect about the 'repulsive' force between like-charged bodies, which are non-existent, in truth'. The Ginger Cat and his master expound their belief that light 'is comprised by tiny discrete solid particles, 'true atoms', or gravitons, which spin along in pairs in sinusoidal double-helix tracks'.

The author's (authors'?) patents then start to be styled as products of the '*One-Man-Think-Tank-World-Energy-Research-Laboratories*'. The Ginger Cat does not appear to be credited in this title, but he expands his theories further in a patent entitled '*Photon Push-Pull Radiation Detector for Use in Chromatically Selective Cat Flap Control and 1,000 Megaton, Earth-Orbital, Peace-Keeping Bomb*'. This device would respond to specific intensities of radiation, allowing it to differentiate between a cat with black fur and one with ginger fur, thus allowing selective entrance through a cat-flap. It also provided a 1000 megaton, earth-orbital complete nuclear disintegration (or CND) bomb, which was a form of Doomsday device, designed to descend on the first nation to fire a nuclear device. (Note the recurrence of the 'CND' theme.) The patent describes the genesis of the project: 'There is at the '*One Man Think-Tank Radiation Research Laboratory*' a Ginger Cat, who, with increasing years, is not as agile as he was, and quite often when coming in at nights from a bit of mouse hunting, is, when the kitchen door is open, overtaken on his way to his cat food by the black cat from next door, who is much younger and more agile'. The cat-flap is then designed as a practical response to this domestic problem. 'When I showed Ginger my drawings for the 'chomatically selective cat flap control', he was very impressed. 'Purr-purr', said Ginger. 'That's quite clever. But there is a much better use for your sensitive radiation detector device'. Ginger goes on to give his analysis of the world situation, criticising Einstein and his period in the Swiss Patent Office, and using some mirroring in his capitalised monosyllables: 'The USA and the USSR Governments are not going to get RID OF their *H* bombs since RED China is building up its stocks'. Ginger then presents his revised physics and its application in the pursuit of world peace and of 'stabilising the price of cat foods'. At this point, the patents of the duo peter out.

Comment

No conclusions about mental state can be inferred from individual patents. It might be conjectured that some of the more eccentric patents might indicate unusual personality types or even frank illness in their authors. An alternative explanation is suggested by consideration of the Chindogu Society, a Japanese institution with 50 000 members (Kawakami, 1995), the purpose of which is the production of useless inventions. The stipulation for these is that they must be possible to construct, must accomplish their stated aim, but must be totally useless. Examples of such inventions include earplug earrings, in which the centre of the pendant doubles as an earplug in loud situations; the duster slippers for cats (let your feline polish the floor, by attaching dusters to her feet); and the up/down two-sided toothbrush, which cuts brushing time in half. In some respects, such inventions are not dissimilar to many of the patented ideas quoted above, although many of the latter would not qualify as Chindogu inventions, because they cannot be constructed with today's technology, or because their construction would improve the lot of mankind. The Chindogu Society nevertheless points to a different and simpler way of understanding eccentric inventions in the files of the Patent Office. This is that they are an expression of an anarchic sense of fun and a witty appreciation of the absurd.

In the end, our hypothesis remained unproven. The conclusion reached by this survey is that absurd and unworkable ideas of the sort produced by our actively psychotic patients appear to be absent from the files at the Patent Office. Certainly, none of our four patients managed to complete the process for registering patents for their inventions. The reasons may be various, but three stand out.

To gain a patent in the United Kingdom is a complex and expensive process. Initially, application forms have to be filled in, detailing designs of the invention, and a filing fee of £25 must be paid. Over the next 12 months, a decision must be made on whether or not to continue. If the decision is made not to continue, the patent 'dies'. Otherwise, the sum of £130 has to be paid to allow the Patent Office Examiner to check the patent and search through previously published documents to see if the invention is new and not an obvious development of what is already known. A report on his findings is sent to the applicant who may then amend the application, allowing publication. Within six months of publication, a further £130 is payable for a full examination, to allow the examiner to check the relevant legal requirements. If all criteria are fulfilled, the patent is granted. The granting of a patent can take up to 4.5 years from the filing date, at a cost of £285. In addition, annual renewal fees are payable, starting at £110 for the fifth year and ending at £450 for the twentieth year. The financial demands alone probably put

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successful patent registration beyond the reach of the chronically mentally ill.

The process for registering a new patent is a demanding one. It is probable that few of those suffering from chronic psychotic illness would have the concentration, organisation or application to pursue the process through to its conclusion. The Patents Act 1977 sets out the criteria for inventions to qualify as a patent. The invention must be 'new' and never have been made public in any way. It must involve an 'inventive step' which would not be obvious to someone with a good knowledge of the subject, and it must have some 'industrial application'. The most disorganised of initial patent applications are unlikely to satisfy these criteria and any incoherent or obviously mad inventions submitted by the mentally ill are probably to be found among the applications that fall at the first hurdle. Regrettably, these are not open to public scrutiny. There is, in any case, a high drop-out rate, with approximately 75% of all applications failing to reach publication. There is little to suggest that special aid is provided to the mentally ill, who wish to take out patents. The exception is a Canadian Act of Parliament, given the Royal Assent in 1906. This changed the law to allow the legal guardian of a certain 'Henry Wurtz, senior, a lunatic', a United States citizen, to file 'applications for patents made by the said lunatic', this previously having been deemed impermissible.

The third consideration lies closer to the heart of the matter, and concerns the nature of creativity. This is the conclusion, lent support by this study of patents, that scientific creativity requires a firm base of knowledge, and that psychopathology, when present, can only colour the process of invention; it cannot in itself produce strength out of weakness (Kessel, 1989). In other words, the only creative 'mad scientists' are those that were creative scientists before they became mentally ill.

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David V. James, *Consultant Forensic Psychiatrist, Camlet Lodge RSU, Chase Farm Hospital Site, The Ridgeway, Enfield, Middlesex EN2 8JL, and* Paul L. Gilluley, *Registrar in Forensic Psychiatry, Henry Rollin Unit*

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