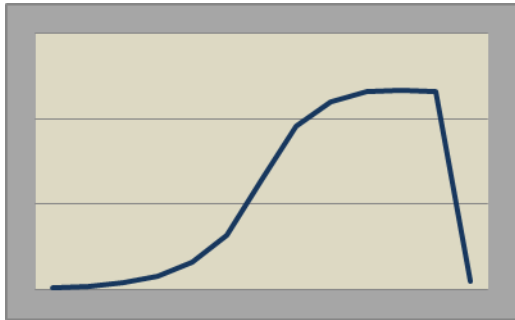


8. OC among the Psychiatrists

The meaning of shapes that are not clearly identifiable is as important as the meaning of shapes whose outlines are clear. –Magritte

If your author's approach to OC is a bit idiosyncratic, we ought to address how psychiatrists regard OC and why. To simplify, psychiatrists think in terms of categories while psychologists are concerned with dimensions. The two disciplines of the mind are divided by a common language. Psychologists speak in adjectives, while psychiatrists prefer nouns. The personality traits, for example, are adjectives: one is conscientious, open to experience, neurotic, agreeable, extraverted, or the opposite. Traits of whatever kind are dimensional: one is friendly or surly, compassionate or unkind, or somewhere in between. Traits describe an individual; they don't classify him or put him into a category. Categories, on the other hand, like the psychiatric diagnoses, are nouns. Categories, like nouns, are not descriptive; they are declarative. They are static, definitive and enduring. It has always been a problem, therefore, to generate diagnostic categories for the mental disorders, because mental disorders are dynamic, not static and changeable, not enduring. Psychiatrists try to make their diagnostic manual comprehensive but they know it can never be definitive.



Is it possible to think of mental disorders as exaggerations of normal human traits? The spectrum of OC and the distribution of traits along a bell curve suggests that may be so. If so, there must be a mathematical function to describe Ivan and Gilbert. There is, and it is called the “cliff-edge” distribution. It is a variant of that omnipresent normal curve, which humans like to defy by skewing it to one side or another. The cliff-edge distribution is so skewed one falls off.

For many years, I found it difficult to reconcile trait theory with the categorical approach to mental illness I learned as a psychiatrist. To say that Ivan and Gilbert are six standard deviations beyond the mean on the agreeableness scale doesn't capture the fact that they are *qualitatively* different from other men. There is something pathological about the way they think and behave. If there a dimension of empathy in the human psyche, they are so far to the right of the distribution they have fallen off.

For most physical traits, fitness clusters around the mean value of the normal distribution and declines the further one goes to one side or the other. There are other traits, however, which behave differently. For some traits, fitness increases as the strength of the trait increases up to a “cliff-edge.” Then, rather than gently declining as a respectable Gaussian curve ought to do, fitness falls off precipitously.

The idea of a cliff-edge distribution was first described as a way to explain why birds lay the number of eggs they do (their “clutch size”). Birds, sensitive as they are to natural selection, are impelled to lay as many eggs as they can without laying more than they can look after. The optimal number of eggs to lay, therefore, is one or two less than the maximum a bird can produce. Laying too many eggs runs the risk of all the chicks perishing if food runs short. That is the so-called cliff edge.¹ Race horses are another example. They are bred to have long, thin bones in their legs; the longer and thinner the horse's legs, the faster he can run. Unfortunately, long, thin bones are vulnerable to fracture and a broken leg is, to a horse, catastrophic. A third example is closer to home. Human beings have higher uric acid levels than other primates, and high uric acid levels are believed to protect against oxidative tissue damage. This arrangement is advantageous for most members of our long-lived species because oxidative

¹ Mountford, D. D. (1968) The significance of litter size. *Journal of Animal Ecology* 37:363–67.

tissue damage is a *bad thing*. However, high uric acid levels are not good for those of us who develop the gout. The gout is not quite so catastrophic as breaking one's leg and having to be put down, but a cliff-edge nonetheless for the gout sufferer, who endures the most painful of all the arthritides. (Nesse, 2004)

The cliff-edge distribution is a way to apply the dimensional theory of mental disorders to extreme cases. For the most part, the difference between normal man, A, and troubled man, B, is *quantitative*. However, if B is so far out he expresses a *qualitative* difference, well, he has fallen off the cliff's edge. Thus, Ivan and Gilbert have fallen off the distribution by virtue of their unpropitious traits.

What is a monster, then? He's not someone just like you only a little bit more; he is someone so much more unlike you, he is something different.

As mathematical functions of the human psyche go, the cliff edge is an engaging theory, but when applied to men like Ivan and Gilbert, it results in only a partial representation of what is really going on. What is it that makes them qualitatively different? Perhaps one should invent a category for them: men who have fallen off the cliff.

TYPES OF MEN

Psychiatrists prefer another kind of partial representation. It is based on simple observation: that some individuals manifest traits to such a degree, and in a way so similar to many others, they ought to be considered *types*. I usually resist the generalizations implicit in **typology** but from time to time I shall concede that there are certain types, and most of them are characters one should try to avoid. That is because I am at heart a biologist, like all my brothers and sisters in medicine, and every biologist is, at heart, a *naturalist*.



Types of men: that is the way a naturalist thinks. A naturalist is the kind of fellow who pots around in the garden looking for insects. His ambition is to discover a new species of beetle and when he does he will name it after his girlfriend. Here, Charlene, is a new and heretofore undiscovered variety of weevil! I have named it after you.² Physicians belong in the naturalist camp and psychiatrists do, too, because we like to think in terms of types and categories. So also this psychiatrist, at least sometimes, although I have no interest in discovering a new type of mental illness. If I did I wouldn't name it after Frances. Look, darling, my new paper has been published. I have described a new syndrome characterized by unpredictable outbursts of irrational rage, and I have named it after you. Entomologists can get credit for such gestures but not psychiatrists.

Anyway, I'm not the kind of naturalist who looks for new types of mental cases. I have enough trouble, day-to-day, with the types I already know and I venture that you do, too. Besides, I realize there are dangers to viewing things through the limited perspective of a naturalist, collecting specimens and giving them names; or even through the lens of psychiatry, which spends altogether too much time doing the same thing. It is possible to typologize too much. It's easy for a psychiatrist to turn every human foible into a type of psychiatric disorder.

The experts won't be satisfied until every last American is suffering from some kind of disease or syndrome. If you add together all the numbers compiled in the US, by all the institutes, the councils, the foundations, the PhD.'s and authors, you come up with one sorry statistical portrait of a nation. So if you believe the statistics, 77% of America's adult population is a mess. And we haven't even thrown in alien abductees, road ragers or Internet addicts. But give the experts a little time. With another new quantifiable disorder or two, everybody in the country will be officially nuts.

In fact, if we were to follow logically, the medical approach, almost everybody would be mentally "ill." The present official classification of psychiatric "diseases" is already so broad that there is a real question whether anybody can claim to not fit into the category. To do so, one would have to be free of everything

² Pictured is the reduviid bug (Family, Reduviidae), specifically the assassin bug, thought to have injected Darwin with the trypanosome that causes Chagas disease. Some people think that Darwin had this chronic malady and that it accounted for his reclusive nature. I think he just liked potting around in the garden.

from anxiety...to acute alcohol intoxication. In short, all you have to do to qualify as "normal"...is to be a bowl of jello.³

I love this argument, wrong-headed as it is. *It is always easy to question the judgment of others in matters of which we may be imperfectly informed.*⁴

If it were easy to understand mental disorders we would have done so already. As it stands, we have only the broad outlines, shapes that are not clearly identifiable, partial representations. They are meaningful nonetheless. There are **mental traits**, like the personality traits, that exist in the population as dimensions, stronger or weaker in one direction or the other. Too much or too little may account for distress or disability. This quantitative approach to human disorders is appropriate to conditions like hypertension, obesity, intimal medial thickness of the carotid artery and the majority of cases that bring a patient to consult with a therapist or take a small dose of Zoloft®. Anxiety is a quantitative mental trait and so is ADD. OC is as well.

Then there are **mental problems**, events in one's world or in one's mind that cause distress or disability, if only for a time. Sooner or later, just about everyone has something that goes wrong with his or her mental apparatus. Here are some examples: (1) Grieving the loss of a loved one is a universal event that may be indistinguishable from clinical depression. (2) A middle-aged man suddenly begins to have panic attacks. Perhaps he has been drinking too much or working too hard. (3) Getting drunk or having a migraine are examples of *acute encephalopathy*. Following a bad migraine or bad drunk, one may be depressed for a while, fatigued or cognitively impaired. (4) Tics and nervous mannerisms, spells of anxiety, nocturnal myoclonus, word-finding difficulties – such problems are ubiquitous, if not universal.

None of these are mental illnesses or neurological diseases, nor do they represent the accumulation of untoward traits. Mental *problems* are just about universal. So are muscular problems like strains, but muscle strains are not neuro-muscular diseases. Joint pains are universal, even in young people, but only a few qualify as arthritis. Respiratory infections are universal but the vast majority are transient and self-limiting. So it is with most mental problems. OC can be a mental problem, sometimes.

In one of the DSM's, there was an attempt to include a number of "v codes" to describe mental problems that might bring an individual or a couple to a therapist, things like "relationship problems" or "occupational problems." Such events usually have nothing to do mental illness, but they cause distress and disability sometimes, and such patients benefit from counselling or a touch of Lexapro®. The DSM didn't call them mental problems but rather just "v codes." I have no idea where the "v" came from.

It was an honest attempt but it didn't fly. In days gone by Sherlock Holmes could say, *I listen to their story, they listen to my comments, and then I pocket my fee.*⁵ That was a happier time, when there weren't insurance companies that paid for diagnoses not problems. *Ms Groves, when I saw Dr Gualtieri last week, he coded me "A normal fellow who is upset because his dog has cancer." Do you think he can change that diagnosis to chronic fatigue syndrome so my insurance will pay for the consultation?*

Finally, there are **mental disorders**, aka mental illness. The insurance companies won't pay for them, either, but that is another story. This is what a mental disorder is:

A mental disorder is a syndrome characterized by clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities. An expectable or culturally approved response to a common stressor or loss, such as the death of a loved one, is not a mental disorder. Socially deviant behavior (e.g., political, religious, or sexual) and conflicts that are primarily between the individual and society are not mental disorders unless the deviance or conflict results from a dysfunction in the individual, as described above.(DSM-5)

³ Jim Windolf, Exec. Ed. of the New York Observer, "A Nation of Nuts" (reprinted in the Wall Street Journal, Oct. 22, 1997)

⁴ P D James, Death Comes to Pemberly

⁵ A Study in Scarlet

If you went to a cardiologist and he told you that you had a *clinically significant disturbance in your heart that reflected dysfunction in the underlying heart function*, you'd probably look for another cardiologist. Psychiatrists are stuck with vague terms like dysfunction and disturbance because, unlike cardiologists, mental disorders don't (yet) have known etiology, pathological anatomy or pathophysiology. In that way, clinical psychiatry is where medicine was 200 years ago.

Syndrome simply refers to a number of symptoms running together; syndromes differ from diseases because diseases have known causes (etiology) and the pathological anatomy and physiology explain the signs and symptoms of the disease; the signs and symptoms of a syndrome just happen to occur together in enough people to arouse the suspicion that they are somehow related. For example, anxiety (generalized anxiety disorder) is a syndrome and one of its signs may be fatigue. We have no idea why fatigue occurs in anxiety patients, but it does, quite often, too, so they must be related to something going on in their brains.

Clinical significance, distress and disability are subjective terms, of course, and unlike the post-ejection fraction they are not easy to quantitate. Mental traits and problems can be distressing and/or disabling and therefore, they are clinically significant. Medical scientists hate to be subjective; like Holmes, they have a passion for objectivity. Unfortunately for the poor psychiatrists, subjectivity is something that brain does; it's its physiology.

Mental traits and problems are only very occasionally as distressing, disabling or clinically significant as mental disorders like schizophrenia, manic-depression, major depression, OCD and OCPDO, autism, mental retardation, dementia, psychopathy, hysteria, drug addiction and alcoholism. But they can be. People can commit suicide because of a mental problem. They can commit murder because of a mental problem. But they aren't necessarily mentally ill.

You may also have noticed that more words in the DSM definition are devoted to what a mental disorder is *not* than to what it is. If you want to know what a mental disorder is, therefore, read my list again: schizophrenia, manic-depression, major depression, OCD and OCPDO, autism, mental retardation, dementia, psychopathy, hysteria, drug addiction and alcoholism. The terminology is a bit different from the DSM, I know, but in our clinics, we appreciate such problems to be *the real thing*.

It's a cheap shot at the poor psychiatrists who labor over these definitions to deride the whole process because it isn't always possible to distinguish between mental traits, problems and disorders. In case you are inclined to take such cheap shots, I shall give you an occasional clue to explain the "processes" in brain that explain the signs and symptoms of OC in particular and mental traits, problems and disorders in general. The fault, dear reader, is not in our psychiatrists, but in our brain.

It is likely that more than 77% of Americans have experienced an event that caused anxiety, depression, insomnia or difficulty thinking clearly; or distress/disability related to a trait that got out of hand for a while. Such events are strains and sprains of the brain. They are the equivalent of skin conditions, GI distress, urinary tract disorders and bad teeth. Yet some people find it offensive to suggest that brain is as prone to mild and/or transient disorders as one's joints or teeth. *Tant pis*.

No one would deny the existence of rheumatoid arthritis because most of the joint problems people have are benign and self-limiting or the existence of cancer because most of the bumps on one's body are warts or lipomas. Yet learned men have said things like: *If you talk to God, you are praying; If God talks to you, you have schizophrenia. If the dead talk to you, you are a spiritualist; If you talk to the dead, you are a schizophrenic.*⁶

CATEGORIES

Objects can be classified scientifically into three major categories: those that don't work, those that break down and those that get lost.⁷

⁶ THOMAS SZAZ. *The Second Sin*. New York: Doubleday, 1973

⁷ Russell Baker

Every human society has had to contend with a few human beings who are limited by severe disability or whose thoughts, feelings and actions are so remote from common experience, there is something qualitatively different about them. It has never been an easy fact to contend with, and through history, when people tried they usually made a hash of it.

There is a romanticized view of how mentally ill individuals were valued in prehistoric times. Psychotic individuals, it is claimed, were revered as charismatic leaders or shamans. The voices they heard were communications from the gods.(Polimeni & Reiss, 2003) In a similar vein, paranoid people had a "lower threshold for threat perception" and were useful when small hominid bands lived surrounded by enemies, on four legs or two.(Dodgson & Gordon, 2009) Such theories only betray ignorance of the disability and disorganization conferred by psychotic disorders. Our own 20th experience with paranoid but charismatic leaders show that such men are as destructive to their tribes as they are to themselves; the advantage of theories based on pre-history is that they can't be tested; any bright-sounding idea is fair game.

As far as recorded history is concerned, we know that individuals disabled by mental illness have usually been dealt with less than reverentially. They were thought to be monsters, bewitched, possessed or accursed, and unsuitable to live among the human beings. It is true that studies of schizophrenic individuals in poor, rural communities in Africa do show that they can be incorporated into village life and even thrive on the fringe of society. Such studies do not count the schizophrenic individuals who were killed, exiled or who wandered off to die in the bush.

In enlightened societies, efforts have always been made to understand the mentally ill and what it was that made them go wrong. Such efforts did not always translate into solicitous care. Nevertheless, the fact that every great civilization has grappled with the problem of mental illness, within the limits of its understanding, indicates that mental illness has been a significant problem for thousands of years. Madness, mania, melancholia, dementia and idiocy have been recognized by all the civilized societies; the interpretations varied, but the common observation has been that a *qualitative* difference existed between some few afflicted individuals and the rest of us.

At different times, in different societies, interpretation of mental illness by medical practitioners began to prevail. The sufferers were *mentally ill* or *mentally handicapped*, and what they suffered was thought to be analogous to physical illnesses that affected the body. In Europe, this occurred during the 18th and 19th centuries.

It was a time of the great efflorescence of biology in the naturalist tradition, an era of systematic observation and classification. The name we learned in High School biology was the Swedish naturalist, Carolus Linnaeus who, in the 18th century, elaborated the categories of Nature for all time. All the known animals and plants belonged in their own category, an inverted pyramid of *kingdom, phylum, class, order, family, genus, and species*. The Linnaean system was so good we still use it, and new plants and animals are discovered and added to it, even as you sit reading this. *Types* may not be a correct term to use in polite society, but we use it anyway, because typology is foundational to the study of living things and even rocks.

An individual may qualify as a type if something about him is typical of some particular category. One can talk about types of squirrels, or types of arboreal mammals, or types of bothersome varmints who devour one's tulip bulbs. Analyzing the world in terms of categories is an efficient and effective way to understanding it and dealing with it. Even the little animals can do it. *Something big moving in my direction* is sufficient categorization to mobilize an effective action step in a mouse, a bird or a housefly.

Human beings have a more sophisticated perceptual apparatus than mice do, or birds or houseflies, and it is integrated with a complex analytical mind and sometimes even with the spirits of kindness and compassion. The categories with which we address the natural world are correspondingly advanced. The squirrels that attack my wife's bird feeders, for example, are in her category of friendly rivals. They are the occasion of kindly bemusement as well as a war of the minds, as she buys ever more advanced squirrel-proof feeders and the squirrels cultivate ever more highly developed acrobatic skills. She no longer lets me shoot them, at least she doesn't since we moved into town. But when she saw a rat clinging to her bird-feeder one day, she was quick to call the exterminators. Thus one's capacity for loving kindness and oneness with the natural world can be restricted by categories.

One should resist the temptation to define categories of human beings, and for good reason. Our history is replete with examples of kindness withheld from certain of those categories. Humanity is sufficient category and if

another level of abstraction is necessary, *individuals* are categories unto themselves. Beyond that, nothing more should guide one's empathy and compassion. But one's deliberations are another matter. We know, for example, that certain genes occur with different frequency in the nations, that men and women metabolize certain drugs at different rates and that certain diseases occur with different frequency in the races. Appreciating proclivities in such regard among the nations, sexes and races should not restrict one's respect or affection, but it can guide intelligent, helpful actions.

Behavioral proclivities do not defy categorization, but one must be careful. *That fellow is angry* is a discernible event. *He is an angry man*, however, describes two possibilities: one, that he is angry, and two, that he is an angry type of man. The second possibility may be true or it may be an unfortunate generalization. It is possible that he is a kindly and helpful mate who is angry because he dropped his wife's expensive new bird feeder from the ladder as he was trying to put it up and smashed the thing to pieces. It also possible that his emotional expressions represent only dismay over his wife's inevitable disappointment. In men, virtually every untoward emotional expression makes him look like an angry type, but maybe that's an unfortunate generalization.

It is easier to type the animals and plants, even animals that swim in the sea and the green sea slug, who lives in the ocean but doesn't swim. It is easier to type animals and plants than human beings, anyway, who are less amenable to collection by naturalists for display in a museum. Nevertheless, if psychiatry has a guiding light, it is the naturalist's point-of-view. The DSM captures that point-of-view quite well. It employs a method well-known to naturalists since Aristotle, and that is *to understand the natural world by describing its categories*. This is the essence of naturalism. All of the animals and plants can be classified, a process that the Philosopher himself began. Animals that swim in the sea, according to Aristotle, were in the category of fish. It was a sound abstraction, based on the information that was available to him at the time. He knew nothing of penguins, for example, and he assumed that whales and dolphins were fish because they swam in the sea and looked like fish. The perennial problem of categories and types of humans is that we seldom have all the data we need.

A GREAT MAN, THE BEST OF ALL PSYCHIATRISTS

In the early 19th century, when medicine set about in earnest to study the mentally ill and the mentally handicapped, the first step, one might think, would be to define their categories. Actually, that was the *second* step. The first was taken by a French Physician, Philippe Pinel (1745-1826), as close to a saint as there has ever been in psychiatry: *The mentally sick, far from being guilty people deserving of punishment are sick people whose miserable state deserves all the consideration that is due to suffering humanity. One should try with the most simple methods to restore their reason.* Pinel was the attending physician and superintendent first at the Bicêtre and then the Salpêtrière, two enormous asylums in Paris. Before Pinel, the patients there were confined in the most squalid conditions and usually chained up. Pinel unchained them.



Pinel was a learned man and wrote extensively, but he had little interest in classification: mania, melancholia, dementia and idiocy were all the categories he needed for the purpose of humane treatment. *If one*

wants to understand the reasons underlying the phenomena observed, one must be careful about another stumbling block, that of confusing the science of facts with metaphysical discussions and certain ideological divagations.

Pinel's student, Jean-Etienne Esquirol (1772-1840) took the second step. He was the first to take meaningful action on behalf the mentally ill and the intellectually handicapped by insisting that they belonged in different categories and ought to be maintained apart from each other and treated with different methods. That such small steps, only two hundred years ago, were revolutionary in their originality and impact only reflects the ignorance and prejudice that pervaded enlightened society during the Age of Enlightenment.

Esquirol's generation in France, England and Germany insisted that both the mentally ill and mentally handicapped were the proper concern of medical doctors, and in the spirit of the times set about advancing methods of classification and theories about their causes. Esquirol wasn't the first to suggest that psychological factors, especially the emotions, could precipitate mental illness but he was the first to advance statistical data to support his view. They were simple statistics: a proportion of patients with disorder A was caused by B and a smaller proportion of patients with disorder C was caused by B. Therefore, B is related to A not C. It was not nearly so sophisticated as the methods of Galton, Spearman and Fisher. They were only clear-minded observations that some individuals manifest traits to such a degree, and in a way so similar to others one has known, they ought to be considered *types*.

Along the way, Esquirol happened to write the first medical description of a patient with OCD:

Mlle. F started off by deliberately not wearing her apron when she visited her aunt. This arrant solecism later developed into a series of rituals. When she woke up, she would rub her feet for ten minutes to make sure that nothing had been caught in her toes or between her nails. She would then check her slippers for items of value before handing them to her chambermaid to check. The poor chambermaid was required to shake the slippers vigorously to make sure there was nothing in them. Then, Mlle. F would run a comb through her hair a certain number of times to ensure that nothing was trapped there. Then she would vigorously shake her hands and rub her fingers until she was convinced that there was nothing on them. She would be so exhausted after all of this, one only wonders that she had the energy to visit her aunt.

Esquirol called it *délire partiel*, partial insanity or monomania. It was a form of partial insanity conceived as single pathological preoccupation occurring in an otherwise sound mind. **Monomania** was the first term physicians used to describe OCD, but by 1850, psychiatrists thought they might come up with better ones: *manie sans délire*, *folie raisonnante*, *monomanie raisonnante*, *kleptomanie*, *idées fixes*, *idée irresistible*, *délire avec conscience*, *délire sans délire*, *idées restrictives* or *mobiles*, *pseudomonomanie*, *folie lucide*, *folie* or *monomanie avec conscience*, *délire de toucher*, *folie de doute*, *délire émotif*, *obsessions pathologiques*, *folie des héréditaires dégénérées* and *crainte de souillure*. The only places one encountered "monomania" after 1850 was in works of fiction, by Melville, Dostoyevsky and Conan Doyle; three men who established at the very beginning of psychiatric investigation a pattern that has persisted, that novelists and intellectuals remain at least one generation behind the learning curve.

"There are no limits to the possibilities of monomania," I answered. "There is the condition which the modern French psychologists have called the 'IDEE FIXE,' which may be trifling in character, and accompanied by complete sanity in every other way. A man who had read deeply about Napoleon, or who had possibly received some hereditary family injury through the great war, might conceivably form such an IDEE FIXE and under its influence be capable of any fantastic outrage."⁸

There were OC's long before Mlle. F. I don't know of any mention in classical literature or in the Bible, although it is possible that Samson had an obsession with hair and a compulsion to kill foxes. If so, he wasn't the last body-builder to have been OC. The condition was first described as such by Christian writers, perhaps as early as the 6th century, in the form of intrusive thoughts: *Those unclean and unspeakable thoughts come at us when we are praying, but, if we continue to pray to the end, they will retreat, for they do not struggle against those who resist them.*⁹ Blasphemous thoughts might intrude into one's devotions, even in the presence of the Blessed Sacrament. Priests noticed that some parishioners attended confession several times a day and repeatedly confessed to the same sins or to frailties that were hardly sins at all. Penance and absolution would provide only fleeting relief and then the intrusive thoughts would re-intrude. The word for it, coined in the 15th century, was *scrupulosity*, from the Latin, *scrupulum*, a small, sharp stone, as in walking with a pebble in one's shoe. During the 17th and 18th century,

⁸ The Six Napoleans

⁹ John Climacus, [The Ladder of Divine Ascent](#)

clergymen identified scrupulosity as a manifestation of anxiety and physicians saw it as a form of melancholia, *A kind of madness, in which the mind is always fixed on one object*. That definition is from Dr Johnson.

Psychiatrists in the 19th century disagreed about whether OCD was a disorder of the emotions (French) or of the intellect (Germans), an argument that continued for quite some time. It is only in the latest edition of the DSM that OCD has been given a category of its own, apart from the anxiety disorders, where it had languished since 1691 or so. Even its name remained in flux until 1877, when the German psychiatrist Freidrich Otto Westphal (1833 - 1890) invented the term *Zwangsvorstellung*. *Zwang* means "coercion" or "compulsion" or "constraint" and *Vorstellung* means "idea." The British translated Westphal's term as "obsession" and the Americans as "compulsion." Obsessive-compulsive disorder was adopted as a compromise.¹⁰

CATEGORIES, AGAIN

The essence of Linnaean classification, the science of taxonomy, is based on careful observation and accurate description, and it is supposed to be atheoretical. Taxonomy itself, however, is based on the theory that lawful relationships exist among all the organisms of the natural world. Those relationships are defined in terms of their structure and function. When taxonomy is applied to mental disorders, however, the problems of structure and function are formidable. In most of medicine, diseases have *structure*. The structure of a disease is its pathology: causative agents, risk factors, organ involvement and pathological change. Diseases affect function, manifest in the signs and symptoms of the disease and the distress and disability they cause, but their structural foundation is pathology. Mental illnesses, in contrast, are defined purely on the basis of their functional manifestations; their structure is still a mystery, although in many cases, like OCD, ADD, depression and anxiety, we know more than we think we do. Understanding function without understanding structure can be misleading; it led Aristotle to think that whales and dolphins were fishes.

Mental disorders are good examples of how the science of facts can be confused by metaphysical discussions and ideological divagations. In the case of OCD, I have described speculations about its functional purpose, e.g., to control unconscious aggressive impulses; its functional origins, that it is potentially beneficial to society; and its functional meaning, that it is a disorder of the emotions, or a disorder of the intellect. The DSM tries to rise above such speculations. It poses as an objective, atheoretical document, based only on observation and accurate description. Modern psychiatry has little use for broad over-arching theories of human behavior, having been embarrassed more than once in its history by attempts to erect one.

The DSM is not likely to be as enduring as the Linnaean system, but it is clearly heir to the tradition. It is not, however, atheoretical. It is based on the theory of typology: that the way individuals think, feel and behave can be reduced to categories, and that those categories can be defined on the basis of structure and function. Absent knowledge of the structure of mental illness, the DSM does its best. It proposes to be objective, and that is a *good thing*. But it is objective only in describing the common appearance of disturbed functions.

A, for example, has obsessive-compulsive disorder, or OCD. OCD is in the DSM chapter called Obsessive-compulsive and Related Disorders, including OCD itself as well as hoarding and excoriation (skin-picking) and a couple of open categories for everyone else. Patients with OCD are given to intrusive obsessive thoughts and/or repetitive acts. What makes it a disorder is if (1) it causes distress to the individual or (2) it impairs an individual's ability to function in an effective way. Or both, of course. To which one asks, what if a fellow likes the way he is but he causes distress to everybody else? Well, he is a right here, says the psychiatrist. He has a *personality disorder*.

B has the obsessive-compulsive personality disorder (OCPDO). He is in another chapter of the DSM altogether, the chapter on personality disorders, along with the antisocial PDO, the borderline PDO and a number of others. A personality disorder is an "enduring pattern of inner experience and behavior" in the way one thinks, feels, behaves or relates to others (according to DSM4). According to DSM-5, the untoward personality traits of someone who has a PDO occur "in his sense of self and other and are relatively stable across time." An individual with the OCPDO is preoccupied with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, efficiency and empathy.

¹⁰ The origin of OCD has also been attributed to Freud and Kraepelin, who called it *Zwangsneurose*.

Then there is the problem of distress, which isn't amenable to Linnaean classification, but which is central to any respectable mental illness. Patients with a PDO, in contrast, don't experience distress at their condition; the only distress they experience is when their obnoxious behavior doesn't get them what they want. Individuals with the OCPDO don't mind the way they are and they don't perceive their controlling disposition or any of their other compulsions to be a problem. Much to the dismay of the people who live or work with them, I should add. To this problem the taxonomists have added a *modifier* to the diagnostic scheme. A patient may have **insight**, or not. A controlling man might know that he is controlling, or he may be utterly blind to the fact.

Adding modifiers is necessary but it only complicates matters. The latest medical classification system for all diseases, the ICD-10, began with about 14,000 coded conditions before it started adding modifiers and other emendations; the latest version has 76,000 and I doubt it will stop there.

Thus a Linnaean system exists for the classification for OCD and OCPDO just as it does for all the other mental disorders, even some that may not even exist. The system, however, is only tentative and is compromised by its partial perspective. The functional representation of a mental disorder, its signs and symptoms, are far removed from the pathology residing at the core of the illness. And between the pathological basis of the condition and its outward manifestations, there is a human being who thinks, feels and behaves in a manner that is unique and different from every other human being.

Animals and plants are less complicated in the way they behave. They can also be examined quite systematically. Their anatomy and physiology can be defined and related to the anatomy and physiology of other animals and plants. Linnaeus didn't know this, but animals and plants have genes, and they can be differentiated or associated on the basis of their genetic structures. Mental disorders, on the other hand, do not have a well-defined anatomy or physiology. The association of genes to mental disorders has been, to date, a crude exercise. The way we examine mental disorders may be systematic, therefore, but it is also necessarily subjective. *How do you feel, Mrs Goldberg?*, asks the psychiatrist. *In a word, she says, Good. In two words, Not good.*

The human species has its own branch and twig on the Linnaean tree of life, but the human mind seems to be somewhere out there in space, and the human personality is out there with her, and so are mental problems and mental disorders. That is why a classification system for human beings, disordered or not, is ultimately an exercise in futility. It may be a necessary futility but it is not sufficient.

For example, in the Linnaean schema, it is not possible for an organism to be an animal *and* a plant, or to be a giraffe *and* a daffodil. But an individual can have more than one mental disorder at the same time. In fact, when a patient's data is fed into a computer that is programmed to behave like the DSM, most psychiatric patients turn out to have four or five discrete diagnoses. This is something that psychiatrists acknowledged by coining the phrase **comorbidity**. One can have anxiety comorbid with depression, ADD comorbid with OCD and OCD comorbid with OCPDO. OCD is not uncommon in patients with schizophrenia or manic-depression.

Many psychiatrists disagree that one can have OCD and OCPDO at the same time. It's commonly said that people with OCPDO don't have overt obsessions or compulsions, like washing their hands frequently, checking innumerable times to make sure they turned off the stove or hoarding stuff so their house looks like a junk store, but that's usually because they do such things in private, away from prying eyes. The last thing they want is to let someone know their secrets. If one asks such a person, even in a clinical interview, he will deny it. I remember one fellow who was a lecturer at the University and came to us because he thought he had ADD. Of course, the fellow had had a stellar academic career and none of his teachers would ever have thought he was remotely ADD (*But I always had to work harder than everybody else*, he said). I was convinced, though, that he had OCPDO because of his controlling manner, guardedness and personal intensity. I went down the long list of obsessions and compulsions with the fellow, even some obscure ones, like making sure the dishwasher is loaded just right and walking around the house at night turning off any light that didn't have a member of the family reading immediately beneath it. No, no, not at all, he said. At the end of the day, while I was writing my report, the medical assistant who had tested him came into my office. She told me about a peculiar habit that he disclosed to her, probably in a moment of weakness: when he was reading, he had to read twenty words – no more, no less -- with each breath he took.

Not only do mental disorders occur in combinations; they can change, one into another. Patients with anxiety disorders will usually become depressed at some point. Or a young man might turn up in the clinic, clearly an

OCD. Then he returns, years later, with another condition altogether. It is in the nature of psychiatric disorders. The list of names proposed in place of monomania doesn't reflect the prolixity of the French so much as it does the diversity of the mental disorders, their changing appearance and their unpredictable outcomes.

The study of mental disorders is complicated by the problem of categories. If one describes Nature in terms of categories, one is likely to think in categories. Thinking like that is hard put to explain the diversity of the mental disorders, their occurrence in pure form in small numbers of individuals and in partial or subclinical forms in a great many more. Or the problem of comorbidity, the co-occurrence of elements of more than one disorder in an individual; the problem of **heterochronicity**, the appearance of one condition at a point in time and then a transition to another later on; and the problem of familial diversity, the fact that most such conditions do not "breed true" but occur in different forms in family members (Cook & Scherer, 2008)(Sebat, Levy, & McCarthy, 2009)

Such problems do not only occur when mental illness is defined in terms of its overt, behavioral manifestations. They also occur when a problem is addressed on the basis of the genes that cause it. There are certain genetic abnormalities that are related to mental disorders. The genes, however, do not breed true. One particular gene has been studied because it is associated schizophrenia. The same gene is also associated with intellectual handicap, anxiety, depression, attention-deficit hyperactivity disorder, autism and OCD.(Gothelf et al., 2004) It is not an isolated occurrence. A number of such genetic loci have been identified. The genes in question are associated with brain development, but how they are expressed, functionally, is quite different in different individuals. In fact, people who are perfectly normal may have the abnormal genes.(Doornbos et al., 2009)

In a Linnaean system of classification, it is not possible to be almost but not quite something. A virus is almost alive, I suppose, but it has its own category. It's a virus. A whale is almost a fish but it's not, even if Aristotle thought it was. The platypus is not almost a mammal, and would only be offended if one suggested otherwise. The green sea slug (*Elysia chlorotica*), who can manufacture chlorophyll and perform photosynthesis, is not almost an animal. I suppose it's reasonable to say that the green sea slug is an animal with some of the traits of a plant but he is, after all is said and done, a sea slug; not even an animal that has fallen off the cliff's edge.

In my field, however, it is quite common to be a little of something but not quite. One can be depressed but not clinically depressed, anxious but not an anxiety patient, a little bit mad but not schizophrenic. I suppose one could say that her brother-in-law is a normal fellow with some of the traits of a paranoid schizophrenic, although that represents an unduly expansive description of what a normal fellow is expected to be like.

Take OC for example: in the space of only a few pages I have burdened you with OCD and OCPDO and passing references to subclinical OCD, OC experiences and behaviors and OC traits. I have also alluded to mental disorders that behave a lot like diseases, like schizophrenia, manic-depression, autism and dementia; other mental disorders that seem to be exaggerated traits; and mental problems that just reflect difficulties one may have getting along. The boundaries among them all are not sharply defined. In fact, they are fuzzy.

FUZZY LOGIC

At least half the mystery novels published violate the law that the solution, once revealed, must seem to be inevitable.¹¹

The problem is not fuzzy-thinking psychiatrists, although heaven knows there are enough of them. The problem is inherent to categorization. The essence of a category is that one is either in or out of it. It is like information technology, which is classically binary: on or off, 0 or 1. Ever since Aristotle, a dominant theme in Western thinking has been the *law of the excluded middle*: that everything is, in principle at least, either A or not-A.

Fuzzy logic is different. Fuzzy logicians grapple, in mathematical terms, with the behavior of complex systems, where, in reality, things may be a bit A and a bit not-A. Fuzzy set theory allows something to be partly a member of one set and partly a member of another. It is not simply a theoretical exercise. Applications of fuzzy set theory allow the digital computer to run complex systems (like climate-control systems in large buildings or mass transportation networks) with a high degree of precision.

¹¹ Raymond Chandler

The founder of fuzzy set theory, Lofti Zadeh, was devoted to applying mathematical principles to the study of biological systems. His basic rule for dealing with complexity was to *simplify*. Not all available information needs to be used and a certain amount of uncertainty is accepted in order to create robust summary concepts. The rules of fuzzy logic are clearly applicable to the study of the nervous system, a system of inordinate complexity, and where the guiding principles of structure-function interactions are obscure, to say the least. In the central nervous system, the idea of organization by serial and hierarchical control modules has been abandoned in favor of the idea of functional assemblies or syncytia of cells, whose aggregate behavior may vary in nature and intensity in response to a host of internal and external constraints. Cells in one assembly are associated with cells in other assemblies; under certain circumstances, they have a partial association with one behavioral action, and in other circumstances have different amounts of association with other behavioral actions. The boundaries of structures within the CNS are imprecise because they participate, to varying degrees, in many behavioral programs. CNS networks are not well insulated one from another. They leak.

When a digital computer is programmed to operate by fuzzy logic, it uses an algorithm known as "centroid averaging." The relative importance of a host of dimensional inputs is computed and translated into an intelligent action step. This process is iterated and reiterated by feedback from the environment until the desired result is attained. It is appropriate to suggest that the neuron, too, is a centroid averager, processing input from synapses and extrasynaptic receptors, from glia and the extracellular fluid; and that neural networks are centroid averagers, too, processing input from other networks with which they are associated. Complex functional systems in the brain compute dimensional inputs from multiple networks, and the organism itself is the final or ultimate centroid averager.

The diagnostic categories in the DSM are categories but only by convention. In fact, they are centroid averages. They are the overt manifestation of a host of dimensional inputs. That is one reason why their symptoms are so diverse and overlapping and why symptoms are mutable over time. All of the psychiatric disorders have a well-defined center and fuzzy boundaries; that is, pure types are readily diagnosable, but borderline conditions, with symptoms that are typical of different conditions, are very difficult to diagnose with precision.

The effects of a psychiatric drug are supposedly categorical: it is effective, or not, according to the conventions of evidence-based medicine. In reality, drugs are nothing more than dimensional inputs to a complex system. They are new and potent variables that are inserted into the organism's computation of a new, and hopefully more adaptive, centroid average. So are all the therapies one uses to deal with mental disorders and mental problems.

So also, I suppose, is one's personality, if not one's mind: a centroid averager of a host of dimensional inputs. It may be a bit fuzzy, but it gets things done, even when the air-conditioners are out or the mass transportation network is on strike.

PSYCHIATRY AND THE BRAIN

If mental problems and mental disorders are hard to categorize, it's not their fault. Personality and personality traits are hard to classify, too. Don't blame the psychiatrists and psychologists. It's *our* fault. People are hard to categorize. We, our minds and our personalities, are fuzzy.

Fuzzy logic is a signal advance in the application of climate-control technology to the study of psychopathology. The human beings, however, are no better described by fuzzy logic than they are by the laws of natural science. What does one say about something that is both A and not-A? This is the kind of paradox that exists in the psychology of an OC. It makes diagnosis tricky. *Is he very neat?* you ask. *Neat! Heavens, no. His office is an utter mess with clutter.* It is, but if you happen to move one small thing in the room, one crumpled old magazine, or if you borrow his staple-gun, buried as it is beneath a stack of papers, he will notice and fly into a rage. His mother was OC, too, but her house was as neat as a pin. She was kind and gentle, but if you tossed a magazine onto the side table, after you left the room, she would straighten it out.

Then there is Dr Lane and his *compañero*, Gilbert. Do they have OC traits? Are they OCPDO's? Sadists? Hypochondriacs? Addicted to prescription drugs? Monsters? Yes to all six. Are they also physicians and highly respected members of their medical communities? Have they both found other women who were willing to marry them? Yes, in fact, both. They even have *a lot of friends*.

In the face of paradoxes, failed theories and psychological experiments that are less and less successful the closer they approach the human condition, and in the face of monsters like Ivan and Gilbert or OCs like you and me, psychologists and psychiatrists have resolved that brain science will resolve the impasse.

Brain science – the ultimate solution to the *dysfunctions in psychological, biological, or developmental processes underlying mental activity*. So, the thrust of modern psychiatry, beginning in the 1950's, has been to relate mental disorders to brain science. This should not have been such a revolutionary advance, but psychiatry, like so many other human endeavors, has had a tendency to be distracted by ideological divagations. Nevertheless, one should assume that OC has something to do with the brain. *You cannot see contents of nut until shell is cracked.*¹²

If mental disorders and mental problems don't behave like real diseases, it's not their fault. It's because the brain doesn't behave like other organs of the body. All those dimensional inputs, you know, not to mention ebullitions. And where is OC among all of that? Is it humidity of the brain, a *délire emotif*, or possibly a dry *Vorstellung*? OC must be related to something that mind does in brain; this we know from Hippocrates himself. The question is whether brain science will enlighten the issue or only make it more obscure. One is hopeful but I am dubious. I have yet to see a problem, however complicated, that when looked at in the right way, did not become still more complicated.

¹² Charlie Chan in Paris