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One of the general findings has been that cellular confinement is more conducive of severe psychosis and emotional regression, whereas the group life in prison is more conducive of anti-social behaviour.

In regard to military prison camps, a Swiss physician, Adolf Vischer, visited camps of French, English and German prisoners of war during World War I and gave a classical description of "Stacheldrahtkrankheit", i.e. "barbed-wire disease" (3). The emotional life becomes poorer, the patient becomes un-energetic, can not concentrate, becomes irritable, hypochondriac, etc. Vischer analyzed the pathogenic factors of this neurosis, which he ascribed to three factors that must coincide, namely: 1) internment, 2) for unlimited, unknown duration, 3) in the forced presence of a group.

Incidentally, Arthur Kiehlholz in Switzerland was the first to point out that this neurosis also existed in certain remote and isolated Mental Hospitals, not only in patients but also at times in nurses and young residents (4).

In regard to TB sanatoriums, another condition was described, not by a physician but by a writer, Thomas Mann, in his famous novel Der Zauberberg. A German psychiatrist, Hellpach, pointed out the actual existence of this neurosis of which Thomas Mann had given a literary description (5). In the "Zauberberg" disease the patients of the TB sanatorium are fascinated, so to speak, by the thought of death and by the revelation of a new world. There is a certain similarity between this condition and one found in a few expensive, private mental sanatoriums, where the surroundings are those of an exclusive country club, providing rich intellectual food, sometimes as rich as the meals served there and where the milieu is pervaded with a burning concern with psychiatric and psychoanalytical problems.

In hospitals for children and in nurseries a condition had been described in the 1890's by a school of German and Austrian pediatricians, Pfaunder, Freund (6), Czerny, etc. who called it "hospitalism". Freund's definition of hospitalism was: "The sum total of noxious influences of all kinds produced by the crowding of healthy and sick infants in hospitals". Certain infants lost weight, faded away and died in spite of the best dietetic and hygienic conditions and these pediatricians ascribed it to the lack of emotional stimulation, monotony and lack of exercise. These investigations, however, did not receive the attention they deserved, but today hospitalism has been re-discovered and wrapped in a psychoanalytical cloak with prodigious success.

Studies have also been made of homes for children, orphanages, etc., some of which are well known, such as Goldfarb's study (7).

Among studies of Old Folks homes special mention is due to those performed in Basel, Switzerland, by a team of a psychiatrist, a psychologist and a sociologist, Wittiger, Jaffé and Vogt: "Alte Menschen im Altersheim" (8). Although the establishment investigated is considered one of the best, the conclusion is not particularly cheerful. These authors emphasized the high percentage of inadaptation, the difficulty of taking roots in their new setting, and difficulty in tolerating the presence of other people.

In each one of the above mentioned and in other milieu we learn something which can be applied to the understanding of the negative factors in Mental Hospitals. One may wonder where the zoo will fit in this picture. It may seem far-fetched, indeed, to compare the psychopathology of the Zoological Garden with these various settings. There is a wide gap between the human and the animal personality. However, the great French naturalist Buffon said, "if
there were no animals, human nature would be far more incomprehensible to us'. To be sure, we are perfectly aware of the difficulties of such comparative studies. Two kinds of pitfalls are to be avoided: One is the "anthropomorphic fallacy". This, for instance, is the case of most people seeing a lion in a cage, imagining this lion as a noble warrior in shameful captivity, dreaming nostalgically of his native forest. The other could be called the "zoomorphic fallacy".

Many behaviourist psychologists do not seem to be aware of it. Recently, for instance, a psychologist made a study of frustration in white rats and applied the findings directly to problems of international politics.

We will try to keep to the straight and narrow path. There are psychological manifestations in higher animals which it has in common with man; a close critical study of these manifestations may help us to see more clearly certain phenomena in the normal and sick human mind. Before we go further we should make a short review of the history of the Zoological Garden.

**History of the Zoological Garden**

Contrary to what is generally believed, the zoo is an extremely old institution (9). Francis Galton, a century ago, gathered abundant evidence from a great number of primitive people all over the earth, showing that these people liked to keep pet animals, sometimes in great numbers. It is known, for instance, that African potentates before the discovery of their country often kept large collections of wild animals of all kinds (10).

There were large animal parks in all the ancient Asiatic kingdoms, Assyria, Babylonia and so on. They reached their peak in ancient Persia, whose kings throughout their empire kept a number of these parks, which in Persian were called *paradises*.

*Paradise* was an extremely large park, enclosed with walls, with a monumental door and exclusively reserved for the king and his favourites. In this beautiful garden animals, especially wild animals, lived in relative liberty and most of them probably eventually became tame. The "Garden of Eden" in the Bible is nothing but an idealized picture of a Persian paradise. After the downfall of Persia the *paradises* survived for some time in Central and Eastern Asia, but at the same time another type of garden developed in other parts of the world, strangely enough also in pre-Columbian America. It was a garden where animals lived in cages or small enclosures side by side. The most remarkable of these gardens was the one of the Aztecs in their capital Tenochtitlan, i.e., Mexico. From the wondrous descriptions by the Spanish conquerors we see it as a zoological garden of fabulous size, richness and perfection, and it is doubtful whether it has ever been equalled. Incidentally, it included not only many species of mammals, birds and reptiles known to the ancient Mexicans, but also a large collection of abnormall human beings, midgets, hunchbacks, albinos, etc.

In Europe the most famous zoo was for a long time that of Louis XIV in Versailles, where he collected animals from all over the world and where a large team of artists and scientists were at work. Unfortunately this remarkable institution declined during the reign of Louis XV. When the French Revolution broke out, the new government decided to institute a model zoo, and, interestingly enough, the Natural History Society of Paris appointed a committee of 3 members to study the project; one of its members was no one else than the famous Pinel who at the same time was concerned with the reform of the notorious Bicêtre asylum, where he removed the chains of the insane. The result of the effort was the founding of the "Jardin des Plantes" in Paris, which served as a model for all other institutions of its kind in the 19th century. Contrary to all previous institutions, it was intended for the education of the public and the idea expanded rapidly all over the world till today where the zoo is regarded as an integrant part of our culture.

A new period in the history of the zoo was inaugurated when the great German merchant of wild animals, Carl Hagenbeck, opened his park at Stellingen outside Hamburg, Germany. The cages and narrow enclosures of previous zoos were replaced by larger spaces, resembling as much as possible the animal's natural habitat. Cages were dispensed with. It was found that the biological and psychological conditions of the zoo animals greatly improved, and this is perhaps one of the facts which led the zoologists to a closer study of the psychopathology of captive animals.

The biology and psychopathology of zoo animals have been objects of much investigation in the last few decades. Among these pioneers we must mention the works of Hediger (11), director of the zoo in Zurich, Dr. Meyer-Holzepfel (12) in Bern, and Grzimek (13) in Frankfurt, Germany.

To their surprise, psychologists learned that from a scientific point of view lions and tigers could be as interesting as rats and mice. The interest of the psychopathology of zoo animals for the psychiatrist has been steadily more recognized. I was probably one of the first to attract attention to this point in a paper published in "L'Évolution Psychiatrique" in 1953. Since that time, at least two studies have been published to my knowledge. One by Balthasar Saehein of Zurich: A study of a ward of chronic schizophrenic patients, where the psychopathology was easily interpreted in terms of the concepts elaborated by Hediger in his studies of animal psychopathology (14). Another study by Racamier in France comes to similar conclusions (15).

**Comparative Psychopathological Syndromes**

From the enormous amount of data on the psychopathology of zoo animals we want to pick four points to elaborate on here:

1. The trauma of captivity.
2. The nesting process.
3. The syndromes produced by social competition and frustrations.
4. Emotional deterioration.

To all these manifestations we find parallels in the Mental Hospital. We expect that a study of the common denominators between the psychology of man and the higher animals will help us to differentiate better between disease itself and the other exogenous factors.

It is a natural tendency of a psychiatrist to ascribe all the clinical symptoms he observes in the mental patient to the disease proper. In the situation of a prison psychiatrist it is much easier because he has to deal with people who were non-psychotic when they arrived in the prison, but even in that case it is often far too easy to make a diagnosis between whether it is a reactive condition, or a mental illness proper which would have developed spontaneously anyhow.

1. The trauma of captivity.

The emotional disturbances occurring in animals after they are captured in their natural element are extremely severe. Carl Hagenbeck gave an excellent study of these emotional disturbances and devised a system of treatment (16). He contended that it is useless to try to have an animal adjust to captivity before the effects of this trauma are removed.
Whereas Hagenbeck thought of trauma mainly in physiological terms, Hediger (17) emphasized mainly psychological trauma resulting from the sudden change from one mode of life to another, completely different. In its native habitat the animal is extremely narrowly integrated in a space-time system and also in a system of social relationships within a group of the same species. For instance, one of the most basic and imperative instincts, as it has been shown, is the "territory instinct", i.e. each animal appropriates for himself a certain amount of space which he considers his own and he marks its limitations in ways varying for the different species, and he jealously and fiercely defends it from other animals of the same species. For an animal it is a severe trauma to be dispossessed from its territory. Furthermore, to the difference of the animal in liberty, the captured animal is neither able to flee from his enemy, nor to attack him and this helpless situation results in a state of anxiety, feverish agitation and stereotypic movements and sometimes the animal may even inflict severe wounds upon itself, often to the point of causing its death, which should not be interpreted as suicide.

According to Hediger there are three main pictures of trauma in captivity: 1) Attacks of acute agitation, at times extraordinarily violent, often resulting in severe wounds, or in death. 2) A prolonged stupor, and 3) a kind of hunger strike which also can result in the death of the animal if it is not forcibly fed.

According to Hediger the trauma of captivity dominates the whole psychopathology of zoo animals. It is more severe the older the animal is. Most animals, when captured as adults, are never able to overcome it. Most young animals are able to overcome it with more or less difficulty. Many zoo animals, for instance most lions, have been born in captivity—sometimes for several generations. However, even these animals may show an extranscendent type of trauma when transferred from one zoo to another or even from one cage to another in the same zoo.

Coming back to human psychopathology we find similar manifestations. Certain criminals, when brought into prison, show that violent manifestation called "Zuchthausknall" or fall into a stuporous condition. Among mental patients, the majority does not show any "trauma of commitment". However, it may develop in a few patients, mostly in acute psychotics who, as it were, are deprived of their ego, and the more it is so, the more their condition is comparable to that of the captured animal.

It seems that in certain psychotic patients the trauma of commitment can be extraordinarily severe and dominate the whole psychopathology, especially if the commitment has been accomplished in a brutal or unethical way. A clinical observation is apropos:

A 30 year old man in the South-East of the US, married and father of a small child, had for 2 or 3 years trouble of schizophrenic nature. His family decided to have him committed to a Mental Hospital. He was taken to see his brother-in-law, who was a surgeon, under the pretense of having a blood-test, which in reality was an intravenous injection where a place, which had been done in advance, took him to a midwestern city, where he was committed to an institution which had prearranged. When the patient finally regained consciousness he discovered that he was 1,900 miles away from home, in a "mad-house" and that his family had gone back by train. For several years his mental attitude was completely dominated by the shock of what he—without reason—called an "accident". His rage against his wife, his brother-in-law and the psychiatrists, whom he erroneously regarded as accomplices in trapping him, was manifested in delusional ideas of persecution, which dominated his morbid state, probably much more than the mental disturbances which had preceded his commitment.

This is certainly an exceptional case. However, for many psychotics in the circumstances of commitment, the transportation to the hospital, the upsetting of daily routine constitute a serious and long-lasting shock, the symptoms of which should not be confused with the symptoms of the mental disease proper.

2. The nestling process.

Whereas the preceding syndrome—the trauma of captivity—is always pathological, the following syndrome, which we may call the nestling process, is considered normal if it occurs in the zoo animal, but abnormal if it occurs in a Mental Hospital patient.

Since the process is much clearer in animal psychology, then let us consider first how it occurs in an animal in the zoo. The drive to possess an "individual territory" of one's own is one of the most basic drives in animals. The captured animal has been dispossessed of its natural territory but is ready to appropriate another one, if it has the chance to do so. One of the fundamental rules of zoo psychology is to bring the newly arrived animal to transform its cage or enclosure into a "territory". How this process takes place may be illustrated by an instance borrowed from Hediger (18):

The tiger Griedo, bought from the zoo in Philadelphia, arrived to the zoo in Zürich on April 9th, 1957. He was to be paired with the tigress Farna. But Griedo was quiet, stayed in a corner of his cage, was shy with his keeper, and not at all interested in Farna. The 26th of June, 1957, two and a half months after his arrival, the tiger made his "proprietor's tour" of his cage, the periphery of which he "marked" with squirts of urine, in the same way in which a tiger in liberty "marks" the limits of his individual territory. The next day there was a remarkable change in the animal, he felt at home, and his attitude toward the tigress underwent a change and so, as a result, some months afterwards Farna brought into this world a new little tiger.

In this particular case the process was very clear-cut, but it could easily have been overlooked if Hediger and the keepers had not been watching very closely.

As a general rule, for most species, an animal which has been captured at an adult age will never succeed in performing this "appropriation" of his cage or enclosure. If the animal has been caught at a younger age it will be less difficult. It will be still easier if it is a matter of a transfer from one zoo to another, as in the case of the tiger Griedo.

The effects of this appropriation are manifold: Since the "prison" is now transformed into an "individual territory", the animal will not try to escape. Mannteufel (19), a scientist of the Moscow Zoo, says that certain zoo animals could easily jump over the fences or demolish the walls of their enclosures if they wanted to, but they simply do not think of it. Barriers are more often made to protect the animals from the public than the reverse. Many animals even refuse to leave their cage when one wants them to do so. Finally, there are countless stories of escaped zoo animals going back voluntarily to the zoo.

Mannteufel (20) tells of a she-wolf from the Moscow zoo, whose name was Kaskirka. She had been brought in a taxi to an institution at the other end of Moscow. At the door of the institution she escaped, to the greatest annoyance of the zoologists. She ran through the whole city, in the midst of crowds of pedestrians who believed her to be an Austrian dog, and finally got into the zoo and from there to her enclosure and sat down in front of the door, waiting for the keeper to let her in.

Loenz Hagenbeck (21) tells that during the bombardment of Hamburg in June 1943, the Stellingen Park was set on fire, many animals escaped, but almost all of them came back spontaneously and the others were easy to bring back. He adds that to his knowledge the same occurred in all other bombed zoos in Germany.

Thus, an animal escaped from the zoo is not at all what the public imagines: a prisoner regaining liberty. It rather is a kind of "displaced person", eager to get back to its home.
Another consequence of the same process is the following: the animal which has been rather shy before, will now defend its new territory fiercely against any intruder or supposed aggressor. Therefore, in our anthropocentric viewpoint, it will become more “dangerous”. A deer, for instance, can be a very “nice” animal as long as you feed it over the hedge of its enclosure; however, if you try to get into the enclosure, it will perhaps become “nasty” and attack you. And by its attacking you it will prove that it has successfully accomplished the process of adjustment and transformed its prison into a territory.

Let us go back now, from the zoo to the Mental Hospital. Do we observe anything comparable to this process of adjustment through the acquisition of a “territory”? It would seem that it is so, if we think of a phenomenon which has been studied very carefully in France by Gustave Daumézon, who called it “L’enrémisement du malade guéri à l’asile”, i.e. the “taking roots” in the asylum of a patient who has recovered (22). In English the same phenomenon has been called “nestling”.

This may occur in a mental patient, no matter what was the initial diagnosis. The problem is not in the clinical diagnosis, but in the personality of the patient. He is a passive individual, lacking in drive and ambition, unenergetic, without a sound social integration. He may be a bachelor, or a widower, has often no definite occupation, his economic status is precarious. During the first period of his stay in the hospital nothing peculiar is seen. But as soon as the eventuality of a discharge is mentioned, something goes wrong; his discharge is postponed. Sometimes a severe relapse occurs just the day before the planned discharge. If the patient is discharged, you can be sure that he will be back soon for a second commitment. Such patients can succeed in spending their whole life in a Mental Hospital.

We may interpret such cases by saying that the patient acquired a “territory” in the Mental Hospital. Some people will perhaps object that it is not the same because the animal in the zoo has no choice, whereas the “nestling” patient has a choice but “chooses captivity” rather than freedom. However, there is perhaps more similarity, because the “nestling” patient mostly is a man who has no home, now he has created a home for himself in the Mental Hospital and when he is discharged he is like an escaped lion who has no place to go, except back to the cage.

The “nestling” process has been investigated among patients who recovered spontaneously. Among chronic mental patients it is much more difficult to recognize it. It would be very rewarding to ascertain to what extent the nestling contributes to make the disease chronic by hampering its recovery or, on the contrary, whether the inability to nestle does not increase the sufferings of certain chronic patients.

Of course the “nestling” process does not exist only in Mental Hospitals. Recently, two American surgeons, Gatto and Dean, described exactly the same picture in a military hospital (23).

The syndrome also exists in TB sanatoriums. A literary example is that of Hans Castorp, the hero of Thomas Mann’s novel Der Zaubergeb. It even occurs at times in prison, although much more infrequently (24). In Old Folks homes: the trouble is rather that the individual cannot perform the “nestling” process and transform his room in the home to a “territory”.

This brings us to wonder about the factors that favour or impede the development of the “nestling” process. We could single out three factors:

1) The individual factor. In human beings the characteristics have been extremely well analysed by Daumézon, as mentioned before. 2) The factor of age. The older the individual, the more difficult is the “nestling” process. This rule seems to be valid for human beings as well as for animals. 3) The factor of milieu. Zoologists have shown that the more an animal enclosure resembles the animal’s natural habitat, the easier is the appropriation. Thanks to this knowledge, the biological and emotional conditions of zoo animals have improved considerably in the last few decades. In regard to Mental Hospitals, Daumézon has shown that the “nestling” process is favoured by old-fashioned hospitals, holding on to tradition, whereas the process is hampered by a strict hospital atmosphere with an intensive therapeutic program.

One main difference between the zoo and the Mental Hospital is that the “nestling” process is “normal” and “desirable” in a zoo animal, but highly undesirable in a Mental Hospital patient, whenever there is the slightest chance of recovery.

However, it has been said that when there is a high probability that the mental disease will not be cured, the “nestling” process should be encouraged. This, at least, was the teaching of Professor Klaesi of Bern, who divided his Mental Hospital in two sharply separated parts, the “Heilanstatl” and the “Pflegeanstalt”. The “Heilanstatl” had a strict hospital character and the patients were told from the beginning that they were only temporarily there. The “Pflegeanstalt” was considered a home for permanent patients and it was made as attractive as possible for them, with curtains, flowers, pictures on the walls, pets, etc.

3. The syndromes produced by social competition and frustrations.

Any living being, at least among higher species, can thrive only if put in an adequate social setting. Grzimek emphasized that it is not enough to put a number of monkeys in a cage. If that is done there will be terrific fights in certain cages, with large numbers of casualties. In other cages the monkeys will live in peace with each other. Why the difference? If the proportion of males is too great, they will fight with each other, for the females, and not only the males but the females too will be wounded and die and finally almost the whole lot will be exterminated. In order to be at peace there must be a small number of adult males, a larger number of females and a group of babies and young animals (25).

There is also the phenomenon of “social rank” which has been investigated by the pioneer work of the Norwegian zoologist, Thorleif Schjelderup-Ebbe (26). In any group of mammals or birds a social hierarchy is spontaneously established. At the top is a dominating animal alpha, who takes the best part of the food, of the females, the best resting place and demands from all the other animals certain gestures and signs of submission. After him comes the second highest in the rank, the animal beta, who acts in the same way towards the other animals except the animal alpha. At the bottom comes the animal omega, a pariah who has no privileges at all and has to submit to all the others. Parallel to this social rank there often exists a kind of hierarchy of mistreatment, biting, clawing, pecking and so on. For instance, among hens exists the “pecking order”: hen No. 1 pecks all the other hens and is pecked by no one. Hen No. 2 is pecked only by No. 1 and pecks all the others except No. 1 and so on. The last one does not peck any and is pecked by all.

Grzimek (25) has emphasized the fact that social rank and pecking order are much more strict and despotic among zoo animals than among a group of the
same species in nature. In a monkey group at liberty the animals of inferior social rank have certain means of protecting themselves, for instance, by creeping around in the periphery of the group or hiding between trees. In the open space of a monkey cage they can not do this but are constantly under the watching eye of the despots; they are deprived of food, bitten and tormented, sometimes killed by the others. The situation of these unfortunate animals could be compared to that of a shy, honest man put in prison with hardened criminals. And to be sure, there is nothing so similar to the animal system of "social rank" and "pecking order" than the spontaneous self-organization of convicts in a prison with its "prison code".

This is not all. To this internal system of inequalities one must add another one. Hediger (27) has emphasized how the attitude of the public toward the animals is completely irrational. There are in the zoos "star-attractions", i.e. animals getting all attention and food from the visitors, which infuriates the animals in the neighbouring cages who are less favoured. The same is true when keepers, as it often occurs, favour a special animal.

Let us go back to the Mental Hospital. Do these data have any relevance for Mental Hospitals? Perhaps more than we think. The phenomenon of social rank can be found in Mental Hospitals under various forms. Barnik has described instances where, in a male ward containing a number of psychopaths, social competition established itself in a form very different from what it would be in a prison (28). Another picture has been described in female wards with many regressed schizophrenic persons, by Balthasar Staehelin in Zürich (14). It is indeed, surprising to read Staehelin's findings and to see how closely these inter-personal relationships of chronic schizophrenics on a ward resemble what Hediger described among animals.

In most cases, however, these phenomena of social rank, competition and pecking order are more or less masked by other phenomena, i.e. rivalry between old-timers and newly arrived patients, or the privileges of patients who have personal contact with the administration, help from outside and so on. These situations are made more complex by the interplay of the personal sympathies and antipathies of the staff. Henri Baruk (29) in France made a special study of these phenomena of social injustice among ward patients and contended that part of the delusions and hallucinations of chronically ill patients are the result of the oppression of the weaker patients and of the favouritism shown by the staff. Baruk claims that he observed a noticeable reduction of delusions and hallucinations after such conditions had been improved; this was the starting point of what Baruk called his "psychiatric Mosaic".

In order to eliminate these noxious effects of social competition and frustrations, several methods can be used. The first one, used by Esquirol and the ancient patients, was to perform the so-called "classification" of patients, i.e. grouping them in such a way that they would not harm each other. The second one, emphasized by Baruk, consists in paying special attention to the social frustrations of patients in order to remove or compensate them. The third one, very much in favour today, consists in a good program of individualized occupational and recreational therapy.

4. Emotional deterioration.

Emotional deterioration as a result of captivity has been extensively studied in the field of prison psychopathology. In Mental Hospitals it is much more difficult because the physician has a natural tendency to confuse these symptoms with the clinical picture of the disease proper. However, some of the old pioneers had already noticed this point. Pinel, for instance, speaking of the insane who were tied with iron fetters, said that it was impossible to distinguish between the disease itself and the agitation resulting from the use of the chains. More recently, in the wake of World War I, Hermann Simon in Germany proclaimed that many so-called catatonic symptoms were secondary products of pathogenetic milieu factors. Symptoms such as deep emotional regression and infantilism, pseudodementia, catatonic gestures and a large part of the agitation, aggressiveness, even of the delusions and hallucinations are included by some French psychiatrists in what they call "alienation".

What can we learn from the zoo psychopathology in this regard? Symptoms of emotional deterioration in captive animals have been known for a long time but not made object of systematic investigation until our time.

Among the manifestations of emotional suffering and deterioration in captive animals, some are probably subjective and can only be guessed. Konrad Lorenz (29) has written about the hidden sufferings and the secret emotional deterioration in caged birds, turtles and other pets. He also infers that intelligent, vivacious animals as monkeys, wolves, foxes and on must suffer much more deeply than a lion who is a basically lazy animal, or an eagle who is a thoroughly stupid bird. However, since animals can not speak to us and tell us of their sufferings we have to rely on objective symptoms whenever they appear. One common manifestation is depression, which is one of the symptoms of the trauma of captivity. Yerkes, for instance, described the miserable condition of a monkey who had been spoiled as the pet animal in a family, but when getting older and more difficult to keep was given to a zoo, where the animal fell into depression with inertia, apathy and soon died. But depression can occur in other circumstances also, for instance from lack of mental stimulation.

Among the various specific symptoms of emotional deterioration in zoo animals we will mention only two:

1) Stereotypic movements. For instance, a bear will constantly nod his head, a chained elephant moves his head back and forth, a tiger will trot back and forth in his cage, a lynx makes a figure 8 and so on. Hediger (30) has been the first to show that these stereotypic movements were psychopathological reactions to captivity. After him, Dr. Meyer-Holzapfel (31) made a systematic investigation and showed that in the most severe cases these stereotypic movements occurred in animals who had been either chained or kept in too narrow a space.

2) Coprophagia. Another manifestation is coprophagia in chimpanzees and other big monkeys. Carl Stemmle (31) has shown that coprophagia, which is unknown under natural conditions, is a reaction to certain conditions of captivity, sometimes to an unbalanced diet, but is mostly stemming from psychological factors. It always increases in the winter time when the monkeys do not see so many visitors. Monkeys are nosy animals, always eager to look at people and to be amused by them and when deprived of this spectacle they fall into boredom. On the other hand, in good weather the monkeys are let out to climb trees, play in the grass and dig in the earth, all of which occupy them, but in bad weather they are kept inside and coprophagia is likely to reappear.

We cannot enlarge upon other manifestations of emotional deterioration. Let it be said only that these manifestations are multifar and each one of them can probably be determined by a variety of pathogenic factors.

To conclude our comparison of the psychopathological syndromes, This
comparison might help us to distinguish more accurately certain exogenous elements which may interfere in the picture of mental disease:

1. The trauma of commitment with its immediate and long-lasting effects.
2. The nesting process in recovered and non-recovered patients.
3. The noxious effects of social competition and the frustrations of group life.
4. The emotional deterioration produced by various other factors in the setting.

**General Comparison**

We should terminate with a few statements of a more general nature, pertaining to a general comparison between the two settings as a whole, the Zoological Garden and the Mental Hospital.

As we have seen, zoos are an age-old institution but until about a century ago they were reserved for kings, princes and a few privileged people. With Louis XIV they became places for scientific research but they still were private institutions. Then the French Revolution brought a new idea: the zoo should also be a place for the education of the people, but it was not long before that ideal became distorted. The zoo became—at least for a great part—a place of amusement for a large public which included many benevolent people but also quite a few malevolent ones. It is absolutely not an exaggeration to say that the role of the keepers consists more in protecting the animals from the public than the reverse.

Here are, for instance, a few excerpts of a book written by a former keeper in the Moscow Zoo, Vera Hegi (32):

"(Among the spectators) mixed a host of the embittered, of people dissatisfied with the world and with themselves, carrying everywhere their rancors and their grudges. Under the pretext of getting something for their money they woke up with a stick the sleeping lion or demanded that the bear should perform some tricks in exchange for a few 'easy bits of food.'"

"The whole day long a huge crowd, quarrelsome and noisy, milled around the cages. This multitude, which would have been seized with a deadly panic if seeing at a distance one of these animals in liberty, revelled in seeing them disarmed, humiliated and vilified. They avenged themselves for their own cowardice by mocking the animals, shouting at them; and the protests of the keepers were cut off with this reply: 'I have paid for it.'"

This was the picture of the public during a period of social upheaval and disorganization. No doubt the average public of the zoo is on the whole, more kind. However, it is surprising what you learn from a talk with old zoo keepers. The average, kind attitude of the public is the result of a long-time effort of education of the public, in connection with a never-ending vigilance by the personnel. As soon as this watch is slackened the public starts teasing the animals, sometimes in a very mean way.

Now let us shift to the history of the Mental Hospital. Here we find the reverse of what was the case with the zoo. Until about the end of the XVIIIth century many Mental Hospitals were open to a large public. Here are a few details about the famous hospital Bedlam in London in the middle of the XVIIIth century, taken from reliable sources:

On each side of the big gate was a column topped with a grotesque statue of Madmen. A visit to Bedlam was one of the great amusements of the Londoners, especially on Sunday. According to Robert Reed (33), it has been estimated that Bedlam received an average of 300 visitors a day. The visitors went through the two gates called the Penny-Gates, because the entrance fee was one penny. The sums paid by the visitors were one of the main sources of revenue for the hospital.

One of Hogarth's paintings, "The Rake's Progress," shows the rake in a miserable cell in Bedlam with two fashionable ladies looking at him as if he was a peculiar animal. According to Robert Reed, certain of the patients attracted the crowds more than others, probably the manics who were the "star-attractions", and it seemed on the whole that the patients in Bedlam looked more "mad" and agitated than our present day patients.

But most surprising is the fact that a large proportion of the patients actually recovered and left Bedlam. In his book about Bedlam, Reed says that this institution played in London life of the XVIIIth century exactly the part of the zoo in our time.

This brings us to mention a problem of vast importance, which we have not the time now to discuss—the problem of the attitude toward mental patients.

A German anthropologist, John Kory (34), compiled a remarkable material of the attitude toward old people, crippled people, etc., including mental patients, throughout the world. The striking fact is how this attitude differs from one population to another. We also know that the attitude toward animals differs according to population.

Recently, there has been attempts made to find some rules—at least concerning animals. What underlies the attitude of people toward animals? The zoo, of course, is an excellent place for such research. Hediger has developed a concept—Schauwert (27), "show value"—of an animal. The financial success of a zoo depends on the Schauwert of its animals, which is not related at all to zoology proper, nor to the rarity and scientific interest of animals, nor to their commercial value or utility to man. Neither is it based on esthetics, but on certain completely irrational factors, whose investigation is still at its beginning.

This research, I think, could instigate a similar research in Mental Hospitals. We are beginning to realize that the attitude of each of us to the various mental patients is completely irrational. We find certain mental patients sympathetic, unsympathetic, indifferent, or we have an ambivalent attitude, and we simply do not know why. When we will come to know more about these unconscious attitudes and motivations, it might help us to work out better methods of individual and collective therapy in Mental Hospitals.

**Bibliography**

processus à éviter chez le malade mental guérissable mais plutôt à encourager
chez le malade chronique et incurable.

(3) Les phénomènes de *lutte sociale* entre animaux d’une même cage, et de
frustration dues au favoritisme des gardiens et des visiteurs, tous deux producteurs
de grandes souffrances pour beaucoup d’animaux captifs. Ils sont comparables
troubles observés chez certains malades mentaux dans des services mal

(4) Les phénomènes de *détérioration psychique* et surtout reactive, mani-
festés par certains symptômes tels que stéréotypes motrices, coprophagie, etc. Ils
résultent de mauvaises conditions de captivité, et peuvent être comparés à la
pseudo-démence de certains vieux schizophrènes.

L’auteur conclut en signalant les études récentes sur la caractère foncièrement
irrational de l’intérêt porté par les visiteurs des Jardins Zoologiques aux animaux
des diverses espèces. Les motivations inconscientes des visiteurs des Zoos comm-
encent à être un peu mieux connues. Il faut espérer que des études analogues
dans les hôpitaux psychiatriques permettront d’éclaircir les motivations incon-
scientes qui font que certains malades mentaux déterminent soit la sympathie,
soit l’antipathie, soit encore l’indifférence ou une attitude ambivalente. De telles
études permettraient peut-être d’ouvrir de nouvelles avenues pour le traitement
individuel ou collectif des malades mentaux.

**Résumé**

Des études sur les prisons, les camps d'internement, les orphelinats, etc. ont
montré que certains milieux fermés exerçaient une action nocive sur l’état
psychique de beaucoup de leurs hôtes. Les troubles psychopathologiques résultant
d'un séjour prolongé dans les hôpitaux psychiatriques ont aussi été étudiés, mais
sont plus difficiles à mettre en évidence car il est malaisé de les distinguer des
symptômes de la maladie mentale proprement dite.

Une comparaison avec les troubles psychopathologiques déterminés par la
captivité chez les animaux des Jardins Zoologiques pourrait aider à éclairer ce
problème, si — tout en ne perdant pas de vue les différences essentielles entre
l'homme et l'animal — on se réfère à certains dénominateurs communs.

Après un historique des Jardins Zoologiques, l'auteur examine quatre mani-
festations bien connues chez l'animal captif, pour en chercher les parallèles chez
le malade d'hôpital psychiatrique:

(1) *Le choc de la captivité*, qui domine toute la psychopathologie de l'animal
au Zoo. Il peut être comparé au choc de l'internement, lequel est plus fréquent
et peut être plus grave qu'on ne le croit souvent.

(2) *Le processus d'adaptation*, par lequel l'animal transforme sa "prison"
iniale en "territoire" (analoge au "territoire" que l'animal en liberté se définit
et défend contre les intrus). Ce processus, que l'on cherche à favoriser au Zoo,
est comparable à celui de "l'enracinement" du malade à l'hôpital psychiatrique.