News & Analysis

Mickey Revisited

Human beings are well known for their tendency to anthropomorphize animals—Walt Disney built a multimillion-dollar empire on this trait. A recent report (J Soc Psychol 112:161-162, 1980) describes a study performed on 228 undergraduate students at a Tennessee University to investigate the tendency to associate human traits (fear, anger, love, sympathy, humor, compassion, happiness, vanity, sadness, and pain) with 36 different animals, including mammals, birds, reptiles, fish, and invertebrates. It seems to us, in this regard, that there could be some argument about the delineation of some of these traits as exclusively human. Surely “pain” and “fear” are important components in an animal’s interaction with and adaptation to its environment.

The animals that were perceived as having the most human traits were the chimpanzee, dog, horse, and parakeet, while four were seen as having the fewest: snake, wasp, cockroach, and earthworm. People tended to group animals into four categories, based on their degree of appeal to humans. The most favored were the furred animals, followed by the birds and fish/insect group and, finally, insects, reptiles, and worms. In general, women made more anthropomorphic attributions than men. In addition, those who were highly sensitized to human feelings were found to be more likely to attribute human traits to animals. This indicates that there might be some validity to the Kantian notion that insensitivity to animals could produce (or reflect) insensitivity to fellow humans.

Defense Alternatives

The U.S. Department of Defense issued a revised directive (3216.1) in February 1982 concerning the animals used in DOD research programs. Among the requirements usually found in such documents, that the animals used in research and testing experience “no unnecessary pain, suffering, or stress,” the directive also notes that:

a. “Alternatives to animal species should be used if they produce scientifically satisfactory results.”

b. “The use of dogs, cats, or nonhuman primates in research conducted for the purpose of developing nuclear weapons is prohibited.”

FDA Approves Contraceptive Dog Food

A new product, Cheque Medicated Dog Food, has been approved by the FDA for prevention of estrus in bitches. Upjohn, Inc., has been working in collaboration with the Carnation Company for 10 years to develop the product, whose active ingredient is mibolerone, a non-progestational steroid, which has previously been available in oral form as a food additive. Over 2,000 female dogs were used in clinical tests of the new product, in addition to numerous field tests in other bitches.

However, the new contraceptive food is counterindicated for dogs with any history of liver or kidney problems, since malfunction of these organs can slow up the rate of excretion of the product’s bioactive steroid. Also, Upjohn warns that Cheque should not be given to dogs “before the first estrus period, and should not be used to abbreviate a period.” Each 6/4-ounce can of dog food will contain 30 or 60 micrograms of mibolerone; the dog’s weight will be used to determine which dosage is administered.

Cheque treatment should be started 30 days before the onset of heat, and can be continued for 1 year. An animal may come into heat as early as 7 days after cessation of treatment, but normally 60 to 90 days elapse before heat resumes (from DVM, May 1982).

NIH Animal Welfare Guidelines

In the wake of the prosecution of a Maryland research scientist (Int J Stud Anim Prob 3(3):219-227) and under pressure from continuing congressional interest in the topic, the National Institutes of Health is moving ahead on a variety of administrative proposals aimed at tightening controls on the use of laboratory animals. According to an article in NIH Week (June 18, 1982), a task force has presented the following proposals to the NIH Extramural Programs Management Committee:

1. Every grantee institution should have an Animal Care and Protection Committee comprised of at least five members, one of whom is a veterinarian with laboratory animal experience and another who is independent of the institution and can therefore serve to represent community concerns.

2. Every research proposal involving animals should be approved by the Committee before being submitted to NIH.

3. Site visit teams should inspect both the laboratory and the animal housing facilities.

4. Investigators should make note of any major protocol changes in their annual reports.

5. Institutions should report to NIH any major changes in accreditation status, any misconduct by investigators, or any protests related to animal welfare made by the public.

6. NIH should launch a 1-year program of 30 site visits, in order to check on institutional animal facilities.

7. The Institutional Committee should launch an immediate investigation of any complaints about misconduct involving animal use and should decide within 48 hours whether the research ought to be permitted to continue.

It is probable that these proposals will be modified in some ways before they are endorsed as official NIH policy, but it is clear that some of the measures in the Walgren bill (H.R. 6245) have caught the attention of NIH.

Mung Beans May Replace Animals for Screening New Drugs

A new in vitro screening test for anticonvulsant drugs, which makes use of enzymes derived from the roots of mung beans, has been devised by John Gilbert and Marjorie Watson of Heriot-Watt University in the U.K.

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However, the new contraceptive food is counterintended for dogs with any history of liver or kidney problems, since malfunction of these organs can slow up the rate of excretion of the product’s biodegradable side effects. Also, Upjohn warns that Cheque should not be given to dogs “before the first estrus period, and should not be used to abbreviate a period.” Each 6-ounce can of dog food will contain 30 or 60 micrograms of mibolerone; the dog’s weight will be used to determine which dosage is administered.

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**Those Ultrasonic Devices for Pest Control**

Following the demonstration that rodents were capable of emitting ultrasound and may in fact use ultrasound for communication, several commercial ultrasonic devices for repelling rats and mice have been marketed for food-storage warehouses, grain elevators, and other facilities, where the use of rodenticides may be impractical. The conditions under which these devices produce their maximum effects have not been investigated. For example, one could hypothesize that food-deprived resident rats that have been continuously exposed to ultrasound might be extremely difficult to repel. In their report, Shumake and several colleagues at the Denver Wildlife Research Center investigated the effectiveness of ultrasound repellers (J Wild Manage 45:148-155, 1982). They found that food consumption was significantly reduced with all devices tested when food was plentiful, but under other conditions their efficacy was highly dependent upon ultrasonic frequency, intensity, and the preexisting rodent-infestation condition. The authors concluded that ultrasonic devices would be most useful as adjuncts to traditional rodent control.

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However, Gilbert and Watson knew that there was a similar group of Mg++-ATPases in the roots of several plants: sunflowers, potatoes, and mung beans. But the ATPases from these plants gave conflicting results — some of the recognized anticonvulsants did inhibit enzyme activity, but other non-anticonvulsant drugs did too. Another group of closely associated enzymes from mung bean roots, the nitrophophoropases, gave more promising data. Nineteen proven anticonvulsants were tested for effect on the plant enzymes. In general, a small but nevertheless statistically significant change — an increase in enzyme activity (as contrasted with the decrease seen with ATPases) — was observed. Conversely, drugs without anticonvulsant properties had no effect, or were inhibitory.

Subsequent “double-blind” tests using additional anticonvulsants have yielded similarly reliable results. Other classes of drugs may also be amenable to in vitro screening with plant enzymes. An important group of antidepressant agents, the tricyclics, seem to have an opposite effect to that of the anticonvulsants on mung bean nitrophophorophasate activity — they routinely inhibit the action of these enzymes. (From New Scientist 94 (1309):702, 1972.)

A Lift for “Down” Cows

Some dairy farmers have voiced concern over the inhumane treatment of sick and injured cows which, rather than being slaughtered on the farm, are transported to slaughter while still alive. The profit that accrues from this practice tends to vary, but some packing plants offer over $100 for injured animals. Cattle that are sick or suffering from fractures and other injuries are winched onto trucks for transportation, with no first aid provided prior to loading.

A complaint by one Wisconsin dairy farmer to the Journal led to the following response from E.D. Baker, Administrator of the state’s Meat Inspection Division.

The action taken by the state clearly demonstrates recognition of a significant welfare problem and itemizes some of the steps that need to be taken in all of the states, to ensure that “down” cows are slaughtered on the farm.

The Meat Inspection Division, Wisconsin Department of Agriculture, Trade and Consumer Protection, has taken the following actions on down cows:

1. Supported legislation to require the killing of down cows prior to loading for pet food or rendering. The law has been enacted and is being enforced.

2. Vigorously enforced Wisconsin statutes that prohibit the slaughter of un inspected diseased animals at custom slaughter establishments.

3. Developed guidelines which describe animals unfit for slaughter and made distribution to plant owners, truckers, and practicing veterinarians.

4. Implemented new federal regulations for humane slaughter.

5. Condemned unfit animals promptly on ante mortem inspection.

These measures have, reportedly, significantly increased the number of animals slaughtered on the farm for which we have little control. We feel that considerable progress has been made in the control of unfit down animals, but owners will continue to have injured animals which, if handled promptly, are fit for food and have nearly the same monetary slaughter value as a normal animal.

Bird Banding Bad for Birds?

At the beginning of this century, bird banding was carried out by only a few private enthusiasts who were interested in the study and protection of migratory species. Then, in the 1930’s, the federal government established large-scale banding programs to keep track of waterfowl for game management purposes. Banding programs have, according to their supporters, enabled ornithologists and ecologists to obtain valuable information on migration routes, bird navigation systems, and the effects of pesticides and other environmental contaminants. Kathleen Anderson, director of Manomet Observatory, one of America’s most sophisticated banding operations, argues that “banding is a tool that enables biologists to get information they could acquire in no other way” (New York Times, July 25, 1982). For instance, banding studies have shown that the loon population of North American lakes has declined drastically and this finding, in turn, led to the discovery that the fish population had dropped off due, at least in part, to acid rain. In addition, banding studies have demonstrated that the health and reproductive success of raptors are directly related to the amount of pesticides and toxic chemicals in the birds’ habitat.

On a lighter note, the vagaries of banding have provided the grist for many whimsical human-interest stories. Thus, Samson Mugande in Zimbabwe found a dead vulture with a band (ring) and reported it to the authorities. He was sent a copy of the analysis and accordingly wrote to the person who banded the vulture as follows:

I was very happy when I heard that it was you who ringed the vulture...

The Rites of Passage of a Hunter

The January 1982 issue of Fur-Fish-Game reports on a study of the developmental stages of hunter psychology, as investigated by Robert Norton and Robert Jackson of the University of Wisconsin. After observing hunters and their hunting patterns in the field, Norton and Jackson interviewed them about their attitudes toward their activities. They found that, in general, hunters tend to demonstrate the traits of one of five stages:

1. Novice hunters seem to derive their primary pleasure from the mere act of shooting itself. Thus, this first period is termed the “Shooter Stage.”

2. The “Limiting Stage” comes next. At this point, hunters become absorbed in the goal of meeting the legal limit on number of animals killed. Success and self-esteem can thereby be measured and compared with the relative success of others.

All my family were very pleased... and they committed you as a very famous man in South Africa. And I am very famous here in the Zimbab­we (Vulture News, No. 5, 1981).

Nevertheless, not all aspects of banding find favor with the growing number of active bird watchers. Practices in this particular, the in-hand examination of wild birds and the use of live decoys for trapping, are being criticized by many bird watchers. And some scientists have censured the Fish and Wildlife Service for being too lenient in issuing banding and petting permits. The Humane Society of the United States does not have a formal position on bird-banding, but it does object to certain practices, such as the use of live birds for the capture of raptors (New York Times, July 27, 1982). As in many other areas of human-animal interaction, humane issues related to bird banding are now coming under much closer scrutiny, and bland assertions about scientific and other benefits are no longer sufficient to allay these concerns.

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2. The "Limiting Out Stage" comes next. At this point, hunters become absorbed in the goal of meeting the legal limit on number of animals killed. Success and self-esteem can thereby be measured and compared with the relative success of others.
3. In the “Trophy Stage,” the hunter has separated himself sufficiently from the pack to concentrate on his own personal objective, usually the killing of a particular species.

4. The “Method Stage” is characterized by an intensity that is nearly a religious fervor about hunting. Hunters in this stage are obsessed with what is latest and most lethal in equipment, dogs, and the like, and are most concerned about how an animal has been killed.

5. Norton and Jackson’s last stage, the “Sportman Stage,” is rarely attained by anyone under 40, comprises those hunters who have “mellowed out,” who no longer have to prove anything to anyone, and whose pleasure stems mainly from their “total appreciation of nature.”

But the literature (American, that is) may suggest avenues for further investigation by psychologists like Norton and Jackson. For example, in William Faulkner’s novel, “The Bear,” the hunters seem to have reached a hypothetical sixth stage of hunting behavior. Through countless years of watching and stalking the animal, the hunters have achieved an intimate relationship among each other and with the animal that is ruthlessly destroyed when the bear is killed by a blundering, misunderstanding of the hunter. The Faulkner story therefore raises an interesting topic for research: a careful study of the psychological development of ex-hunters.

Results of the First U.S. Trial of the Quantock Group-Pen System for Raising Calves

The first quarterly issue of the Journal (3:1-14, 1962) made note of an upcoming U.S. test of the Quantock group-pen system, as a joint venture of the British firm Volac Limited and the U.S. Corporation, Provim. The actual trial began in December 1961, in Wisconsin, under the management of Quantock’s stockman, Chris Deimert. The objectives of the study were to find out if the Quantock system could be profitably adapted to the very different conditions in the U.S., such as climate, diet, and calf breed.

The Journal contacted the President of Quantock, Philip Paxman, and asked if he could send us some information on the results of this cooperative venture.

The following are excerpts from a letter he was kind enough to send us (dated June 22, 1982; the appended Table 1 is taken from the May 1982 edition of the Volac newsletter, A Message from Quantock Veal).

In the first trial of the Quantock system in America, 83 Holstein bull calves with an average weight of 114 lb were purchased on December 22, and they were slaughtered 90 days later. During the course of the trial one calf died of pneumonia, but there were no other losses. The physical performance of the calves was satisfactory, and feed consumption and growth rates were within 1 percent of the targeted figures based on British results. The growth rate and health of the calves, as reflected in the cost of veterinary treatment, were both superior to crated calves reared at the same time.

There were, however, some problems, in particular, with the environment within the building during the very cold weather in January and February. The building had not been fully modified in accordance with our U.K. practice and the calves were, in effect, reared in a controlled environment which it was difficult to maintain satisfactorily. There was a considerable amount of condensation, and at times the bedding became wet, resulting in a somewhat dirty appearance of the coats of some of the animals.

The Quantock Calf Feeders worked satisfactorily without any mechanical problems throughout the trial, and the diets proved palatable and highly digestible. Quantock’s English feed formula was used to feed half of the calves as a controlled diet, and these achieved a particularly high conversion ratio, just over 1.6 lb of feed per lb of live weight gain, but because our English formula is more expensive these calves actually made less profit than crated calves. The other half of the loose-housed calves were fed a proprietary American formula, which was substantially cheaper and, although the performance in terms of conversion ratio was not quite as good, it sustained growth rates substantially higher than the crated regime.

The bedding used, which was wheat straw, proved costlier than the maintenance of conventional crates, and it would be desirable to find a cheaper form of bedding such as maize cobs to improve the profitability of the system.

The 90th annual convention of the American Psychological Association (APA) was held in Washington almost 1 year after the police seized monkeys from a Maryland laboratory and charged Dr. Taub, the Director of the laboratory and a research psychologist, under the Maryland antircruelty statute (see Int J Stud Anim Pro 3:219-227). Since then, the APA has provided Taub with both moral and financial support ($5,000) prior to the outcome of his appeal, in which 1 count of animal cruelty was upheld by the jury.

The APA actions were the subject of considerable debate in an open forum at the annual convention. Apparently many APA members, some of whom occupied influential positions within the Association, were upset at the manner in which the support was given. APA officials were defensive in the face of such criticism and argued that their support was given to ensure a full and fair examination of all the issues surrounding the Taub case. In particular, they stressed that there was no presumption of guilt or innocence. However, the APA’s Psychology Defense Fund authorized a further grant of $5,000 to Dr. Taub’s Institute. On Aug. 21, 1982, one and a half months after he had been found guilty of 1 count of cruelty.

### Table 1 Physical Performance Data—Quantock Loose-Housed Trial

<table>
<thead>
<tr>
<th>Pens 1 and 2</th>
<th>Pens 3 and 4</th>
<th>Crate</th>
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</thead>
<tbody>
<tr>
<td><strong>Volac Feed</strong></td>
<td><strong>Provim Feed</strong></td>
<td><strong>Crate</strong></td>
</tr>
<tr>
<td>Initial live weight (lb)</td>
<td>114.4</td>
<td>115.8</td>
</tr>
<tr>
<td>Final live weight (lb)</td>
<td>368.93</td>
<td>237.25</td>
</tr>
<tr>
<td>Growth</td>
<td>254.53</td>
<td>254.53</td>
</tr>
<tr>
<td>Daily live-weight gain (lb)</td>
<td>2.29</td>
<td>2.29</td>
</tr>
<tr>
<td>Cold hide-on carcass (wt., lb)</td>
<td>254.19</td>
<td>243.23</td>
</tr>
<tr>
<td>Cold hide-off carcass (wt., lb)</td>
<td>228.77</td>
<td>219.93</td>
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<tr>
<td>Food consumed per calf (lb)</td>
<td>416.54</td>
<td>417.33</td>
</tr>
<tr>
<td>Food conversion ratio</td>
<td>1.64</td>
<td>1.64</td>
</tr>
<tr>
<td>No. calves start</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>No. calves finish</td>
<td>43</td>
<td>38</td>
</tr>
<tr>
<td>Mortality</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Culls</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Age to slaughter (days)</td>
<td>98</td>
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American Psychological Association & Dr. Taub

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4. The “Method Stage” is characterized by an intensity that is nearly a religious fervor about hunting. Hunters and the shepherd has separated himself sufficiently from the pack that he comes to concentrate on his personal objective, usually the killing of a particular species.

The Journal contacted the President of Quantock, Philip Paxman, and asked if he could send us some information on the results of this cooperative venture. The following are excerpts from a letter he was kind enough to send us (dated June 22, 1982; the appended Table 1 is taken from the May 1982 edition of the Volac newsletter, A Message from Quan­tock Veal).

In the first trial of the Quan­tock system in America, 83 Holstein bull calves with an average weight of 114 lb were purchased on December 22, and they were slaughtered 98 days later. During the course of the trial one calf died of pneumonia, but there were no other losses. The physical performance of the calves was satisfactory, and feed consumption and growth rates were within 1 percent of the targeted figures based on British results. The growth rate and health of the calves, as reflected in the cost of veterinary treatment, were both superior to the calves reared at the same time. There were, however, some problems, in particular, with the environment within the building during the very cold weather in January and February. The building had not been fully modified in accordance with our U.K. practice and the calves were, in effect, reared in a controlled environment which it was difficult to maintain satisfactorily. There was a considerable amount of condensation, and at times the bedding became wet, resulting in a somewhat dirty appearance of the coats of some of the animals.

The Quantock Veal Feeder worked satisfactorily without any mechanical problems throughout the trial, and the diets proved palatable and highly digestible. Quantock’s English feed formula was used to feed half of the calves as a controlled diet, and these achieved a particularly high conversion ratio, just over 1.6 lb of feed per lb of live weight gain, but because our English formula is more expensive these calves actually made less profit than crated calves. The other half of the loose-housed calves were fed a proprietary American for­mula, which was substantially cheaper and, although the performance in terms of conversion ratio was not quite as good, it sustained growth rates substantially higher than the crated regime. The bedding used, which was wheat straw, proved costlier than the maintenance of conventional crates, and it would be desirable to find a cheaper form of bedding such as maize cobs to improve the profitability of the system.

I have now incorporated a U.S. corporation under the name of the Quan­tock Corporation, which is establishing an independent trial unit for the Quan­tock system in Wisconsin, under the management of Mr. Chris Deimert, the English stockman who conducted the first trial. Unfortunately, he is currently suffering from illness, but as soon as he recovers it is our intention to stock this unit and make it available for demonstration purposes. At a later stage we hope to construct a purpose-built unit for the Quan­tock system, designed to take fully into account the climatic extremes in the mid-West.

The association between my Company and Provimi, which was for 6-month duration for the purpose of carrying out the first trial, has now been terminated on a mutually friendly basis, and you will be happy to know that Provimi will be continuing their investigations of the Quan­tock system, and the fact that two units will now be operating independently should allow a larger number of aspects to be considered.

American Psychological Association & Dr. Taub

The 90th annual convention of the American Psychological Association (APA) was held in Washington almost 1 year after the police seized monkeys from a Maryland laboratory and charged Dr. Taub, the Director of the laboratory and a research psychologist, under the Mary­land anticult statute (see Int J Stud Anim Prob 3:219-227). Since then, the APA has provided Taub with both moral and financial support ($5,000) prior to the outcome of his appeal, in which 1 count of animal cruelty was upheld by the jury.

The APA actions were the subject of considerable debate in an open forum at the annual convention. Apparently many APA members, some of whom oc­cupied influential positions within the Association, were upset at the manner in which the support was given. APA officials were defensive in the face of such criticism and argued that their support was given to ensure a full and fair exami­nation of all the issues surrounding the Taub case. In particular, they stressed that there was no presumption of guilt or innocence. However, the APA’s Psychology Defense Fund authorized a further grant of $5,000 to Dr. Taub’s Institute on Aug­ust 21, 1982, one and a half months after he had been found guilty of 1 count of cruelty.
The Problem of Pain: What Do Animals Really Feel?

Much of the contention and confusion that seem inevitably to arise whenever the subject of pain in animals comes up appears to stem principally from problems with the word "pain" itself. When used to describe responses in humans, "pain" can mean any subset of an incredibly broad spectrum of sensations and emotions, ranging from the instantaneous, galvanizing effect of a dentist drill hitting the nerve in a molar, to more airy notions such as the "pain" of rejection or "painfully" embarrassing situations. Humans even use concepts as abstract as the German term, "Weltanschauung," or "world view," which denotes a vaguely defined kind of sentimental depression or despair.

Few people today would attempt to reiterate the position of the seventeenth-century philosopher Descartes, who held that animals, since they lacked the godlike element of soul, were simply unreasoning machines. Nevertheless, there is a pervasive reluctance among the great majority of the scientific community, many of whom use live animals on a daily basis for research and toxicology studies— to make any firm or concrete statements about the nature of the pain experienced by animals. Their position seems to be partly based on the assumption that pain in humans must be considered a priori as a far more elaborate nexus of mechanisms and subsequent reactions, especially in terms of emotional and intellectual consequences, than could ever be considered possible in animals. In most formal scientific presentations, though, this assumption usually remains obscured by a smokescreen of insistence upon the necessity of accumulating more and more objective data to complete a highly detailed picture of the neural circuitry of the various animal species.

In his introduction to an American Veterinary Medical Association-sponsored symposium, "Pain Perception in Animals" in April of this year, R.L. Kitchell (University of California, Davis) summarized the essential elements of this position. He asserted that we would probably not have any reliable methods for objectively demonstrating that pain— as we know it—occurs in animals for many years, until all of the nerve pathways and central nervous system (CNS) interconnections related to pain have been teased out in humans, as well as in the wide range of phylogenetically diverse species that are used in laboratories. Until that time, he cautioned, we should be careful to speak only about presumed "noxious stimuli" in animals, and that we ought to be wary about making any direct inferences that what we commonly think of as pain occurs as a direct result of applying those sorts of stimuli. But on the other hand, Kitchell also stated categorically that "pain is a subjective phenomenon, which is unique to each of us." So a troublesome question arises when the standard scientific approach to the study of pain is used without consideration of other ways of attacking the problem: Why bother to continue collecting ever-more sophisticated data, obtained by doggedly subjecting experimental animals to years of onslaughts of "noxious stimuli," in order to learn everything possible about nervous pathways, neurotransmitters, and the like, if the whole phenomenon of pain can never really be subjected to rigorous study at all? Must it not always remain a purely subjective experience, whose qualities and intensity cannot be communicated precisely by humans, let alone by nonspeaking animals?

On closer inspection, in light of what we know now about pain in animals, this sort of conceptual paradox becomes much less of a problem. We already have...