

Drive: Where it came from. Where it's gone to. What now?

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September 3, 2015

Version 1.0

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Foreword

As discussed in a previous paper¹, some things we do and say in dog training are known by or at least are familiar to everyone. You say the word and there is that outwardly knowing nod of the head, slight smile. No matter that you may have only heard the word, but don't really know what it means. Or you were just at a seminar where that speaker with the booming voice, charming smile and international awards spent 45 minutes talking about it.

So it never really enters into your mind, that it may not be what it seems. It's a thing with a name that the expert has very convincingly shown and explained.

But what if I were to tell you ... would you still take the **red** pill?

This paper cannot, in this form, present all the information there is to know about *drives*. Scientists have dedicated whole books to one type of *drive* (yes, that's a hint. There are more than just one type of *drive*, depending upon the science and scientists). My intention is to lay out a very brief history of the concepts (another hint) of drive, spanning different "-ologies" and decades and uses. I will give as many references as possible so that you can check them yourself. Only at the very end, will I try to tie this all together and give you my opinion – yes, THAT will be my opinion.

At this point I'd like to thank the following people who've been so kind as to read this through and offer their encouragements, but mostly their suggestions as to how it could be better – meaning where I messed up and could therefore correct it before passing on to you:

Dr. vet. med. Inês Guimarães, (Portugal), **Dr. Merijeane Moore Hollingsworth**, Distinguished Fellow, American Psychiatric Association (USA), **Joël Müller**, Angewandte Kynologie, Univ. of Vienna, Austria (Switzerland), **Bettina Stemmler**, lic. phil. (Switzerland), **Regina Stutz**, lic. phil. Psychologin (Switzerland), **Laure-Anne Viselé**, BSc (Hons.) in Zoology; MSc; PG Dip. Applied companion animal behaviour (UK/Belgium/Holland)

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1 <http://www.auf-den-hund-gekommen.net/-/paper1.html>

Scientific “History” of Drive(s)

Sigmund Freud is to be thanked for the idea of “drive”. 1905 he published his “*Drei Abhandlungen zur Sexualtheorie*” (Three Essays on the Theory of Sexuality), and mentioned them for the first time there. But he himself revised his own theory at least three times. Freud defined *drive* as being physical demands set upon the psyche². More precisely, he saw, in the beginning, two primary drives, *Eros* = living and *Thanatos* = dying, or the destructive instinct (drive).³ The first drive is positive, the second is negative, so that they often conflict with each other. He then described secondary drives that facilitate the realization of the primary one.

Although Freud was considered the father of modern psychology, not all were of his opinion, especially not about these drives. Over the years many, including the following people Alice Miller, Thomas Mertens, Jeffrey Masson, Doerte von Drigalski, and Hilarion Petzold, who had allied themselves earlier with this line of thought, distanced themselves from Freud’s “*Triebtheorie*”⁴. One of their objections was, when applied to victims of sexual assault, the drive theory can actually be reversed and turn the criminal into the victim and visa-versa. The so-called “provocation” charge or “she was asking for it.” Something we see today. Others never did share his view, such as Heinz Hartmann, Erich Fromm, Otto Kernberg, Martin Dornes and more.

In respect to Freud’s theory, we non-psychologists can say, that these drives were “driving factors” in our behavior, that were working with and against each other. As long as these held each other in check, we had no problems. And they worked without our active knowledge of them, nor generally, the ability to affect change in them directly, like “don’t do that!”.

Konrad Lorenz, the father of Ethology – The neuroscientist Berridge (2004), summarizing the history of the developments of motivational neuroscience, described why the notion of **Drive Theory** is now considered to be obsolete, described all sorts of different drive systems, until he gave a very clear description of what kinds of *drive* Lorenz was talking about. Berridge’s description of Lorenz’s **Hydraulic Reservoir** is, that a drive grows naturally within the organism and works like a pressure valve.

“Motivational stimuli in the external world (food, water, sexual and social stimuli, etc.) act to open an outflow valve, releasing drive to be expressed in behavior.”⁵

The idea here being, that when the stimulus presents itself, the behavior dependent upon this stimulus is released through an inner pressure to take form in a certain corresponding behavior. This is done to maintain “*homeostasis*”, or in other words the “*status quo*” – a key to understanding how Freud, Lorenz, Tinbergen and Hull, with some differences in “mechanics”, viewed *drives* as functioning. Berridge however also wrote, that there are some problems with this – which also have led to the abandonment of Lorenz’s drive theory amongst most scientists. You may, as Berridge uses as an example, politely take a peanut at a party, without initially having any desire to eat. But, after having had that one peanut, you might actually develop a craving for peanuts and real hunger. So there must be other “powers” in play.

Instinkttheorie (Lorenz is not very consistent with his use of “*Trieb*” (drive) or “*Instinkt*”) had already been described for birds by Oskar Heinroth who ...

“... also rediscovered the phenomenon of imprinting, reported in the 19th century by Douglas Spalding but not followed up at the time. His results were popularized by Konrad Lorenz, whose mentor he was. Lorenz regarded Heinroth as the true founder of the study of animal behaviour seen as a branch of zoology.”⁶

The sentiment, that Lorenz’s *drives* did not accurately describe the mechanisms involved, is found in many, many articles and papers as well as texts⁷. And Lorenz himself recanted much of his own work, especially after much had been found NOT to be reproducible – an absolute must in the scientific world – as well as some people questioning Lorenz’s basic research methodology, including Tinbergen himself⁸. Lorenz, in a

2 <http://www.terrapsych.com/freud.html>

3 Hadley (2009)

4 <https://de.wikipedia.org/wiki/Triebtheorie>

5 Berridge (2004)

6 https://en.wikipedia.org/wiki/Oskar_Heinroth

7 Leedom (2014), Hettis & Estep (2004), Lehrman (1957), Bilben (1998)

8 Burkhardt (2008)

conversation with Tinbergen and in the presence of Robert Hinde, admitted to his friend Tinbergen, that many of the statements concerning specific behaviors were based upon behaviors he had only seen once.

In his *“Drive or wish? A reconsideration of the psychoanalytic theory of motivation.”*, Robert Holt (1976) writes for example about Lorenz’s drive theory:

“it is so riddled with philosophical and factual errors and fallacies that nothing less than discarding the concept of drive or instinct will do.” He adds, however: *“we must be quite sure before we abandon it that a viable alternative is at hand.”*

We’re getting to that...

One of the basic problems of readjustments to findings in science is, just because a theory has been empirically shown to be invalid or replaced by others, does not mean this it simply disappears. And science is NOT the 100% sure thing we think it is. You just never get a 100% agreement.

Cherry (2014) explains, **Clark Hull** claimed, that reinforcement of behavior during learning coincides with a reduction in a physiological drive state, i.e. the **Drive Reduction Theory**⁹. For example, we eat because we’re hungry, drink because we’re thirsty, etc. and every time we eat when we’re hungry, that drive is reduced and the eating is rewarding. One of the biggest problems with Hull’s **Drive Reduction Theory** is, that it doesn’t account for secondary reinforcers and why they reduce drive.

*“Take money, for example. While money does allow you to purchase primary reinforcers, it does nothing in and of itself to reduce drives. Despite this, money still acts as a powerful source of reinforcement.”*¹⁰

Another problem is, that it doesn’t explain why people do things for which there is no biological necessity. Why do they eat when they are not hungry and drink when they are not thirsty?¹¹

Sloane (1945) bemoaned the semantic interchangeability of *drive*, *instinct* and *reflex*, this by reducing explanations for behaviors to their common denominators and labeling them, without actually making allowances for subtle or even major differences:

‘Drives’ have now succeeded ‘instincts,’ but the improvement is open to question. ‘Drives’ are subject to the same criticism as instincts. They are attempts to establish certain definite basic patterns or tendencies that remain constant, or fairly so, amid all the complexities and transformations that arise as various kinds of organisms undergo development and change in response to changing environmental conditions. To say that the act of an animal devouring its prey is ‘fundamentally’ the same as that of a modern man eating his dinner in the bosom of his family, that both are manifestations of the hunger drive, is to be guilty of oversimplification, if not of outright falsification.”

Or another example would be the question, why is a dog showing high *prey drive* once when a ball is thrown and she springs after it, pounces on it and goes to town on it, but not if, on another day, the same ball thrown in the same manner evokes no behavior other than a slight move of the head. One observer says *high prey drive*, the next says *no prey drive*¹². Same ball, same dog, different day.

Another problem with, for example the use of the terms *hunting drive* or *prey drive* is, that they actually both contain parts of the genetic hard coded **action sequence** observed in predators. This consists of

orient->fixate->stalk->chase->grab->kill bite->dissect->eat¹³.

It’s been shown empirically, that one can through breeding, emphasize or de-emphasize certain steps in this action sequence¹⁴. Being that it is an **action sequence**, once it is started through a stimulus in the environment, it is generally carried through to the end unless the stimulus itself changes, i.e. disappears, for example through a successful escape. Contemporary descriptions of *prey drive* only describe the first steps of this **action sequence** - the chasing and grabbing. The *hunting drive* is usually described as the killing of the

9 <http://psychology.about.com/od/motivation/a/drive-reduction-theory.htm>

10 Cherry (2014)

11 Cherry (2014)

12 London (2012)

13 Coppingers (2001)

14 Trut (1999)

prey. But neither exists as its own **action sequence** according to the research. *Prey drive* and *hunting drive* form, if at all, a discarded part of the old “Instinct Theory” which had used “drive” or “instinct” as terms pretty much interchangeably.

Many others, during the course of their research projects have mentioned, that one or more drives are not applicable or outdated to science: See Lehrman¹⁵ (1953), Bilben¹⁶ (1998), Ledoux¹⁷ (2014), Leedom¹⁸ (2014)

15 Lehrman (1953)

16 Bilben (1998) “While the concept of a play 'drive' is no longer seen as a relevant issue in the research literature, there is evidence to suggest that play is a priority and that youngsters (and sometimes the not-so-young) will alter their 'normal' or expected behavior in order to have play experiences. Such evidence, while indirect, is relevant because more direct information, as from deprivation studies, is notoriously difficult to obtain for play.”

17 Ledoux (2014) „However, drive proved problematic as an all-purpose explanation of motivation because organisms are also impelled to act by external incentives.“

18 Leedom (2014) „Drive theories of motivation proposed by Lorenz and Tinbergen did not survive experimental scrutiny;“

Interesting uses of drive in science

Before I get on with this next section of examples of the use of drive in scientific literature, I'd like to just quickly quote a couple of things I found that have been a great help in not losing my perspective:

“Whether a behavior is “inherited”, or how much of a behavior is ‘inherited’ aren’t answerable.

They aren’t even the right questions to ask. It’s sort of like asking how often do you hit your significant other? The wrong question will lead you to the wrong answer.¹⁹”

and

“Nominal Fallacy – The error in thinking that if you have named something, you have explained it.²⁰”

and

“Drive, instinct and innate are terms that were used by animal behaviorists and psychologists in the 19th and early 20th centuries to try to explain behavior. They fell out of favor and are no longer used by most scientists. The reasons are that these terms over-simplify the causes of behavior (the causes of behavior are more complex than originally thought) and they lead people to commit the nominal fallacy. Example: “Why is that dog so interested in chasing balls today?” “Because his prey drive is high right now.” “How will I know when my dog has high prey drive?” “He will want to chase balls.”

Drive and instinct have been used by some owners and trainers to refer not to moment to moment changes in behavior but to stable temperament or personality traits. So it has been said that some breeds or individual dogs may have high prey drive because they are consistently interested in chasing balls or other things. Used this way, the terms often fall victim to the nominal fallacy. Saying that Golden Retrievers have a high prey drive explains nothing. Drive and instinct cannot be both an explanation for short term changes in behavior and personality traits. To be a temperament trait, the dog would have to be observed in a number of different situations and show the trait consistently in many of these situations. Most owners and trainers do not have these observations. Dogs can have personality or temperament traits, but prey drive is not one of them.²¹”

These quotes above kind of sum up the entire section before, and also shows where we've landed today. And there could very well be a corollary to **Nominal Fallacy**, for example **Self-evident Truth** i.e. something is so self-evident, that it can only be the truth (“everyone knows....”) BUT, some scientists do, or still do use these terms. I've made a couple of observations which I admit, may or may not be valid, since I'm not a scientist, nor a science reviewer. When looking at how trainers and owners today use *drive* or *X drive* to explain their training, it's similar to saying, that there are certain different characteristics at the north, south, east & west ends of the world, which need to be understood and planned for, depending upon where we're sailing to.

This first example below is one of the reasons for this paper. The background: I wrote a blog about the misuse of quadrants amongst many dog trainers. At one point, I wrote that I personally find the **Affects** as described by Panksepp to be more helpful if I really need to interpret the behavior I'm observing²². One reader, although admitting to not having read either Panksepp's 1998 or 2012 books, mentioned a graphic she credited as “the Compulsion Spectrum diagram by Panksepp cited in Lindsay”. This turned out to be p. 284 from Lindsay's “*Handbook of Applied Dog Behavior and Training, Vol. 3*” (see below)

19 Hetts Estep (2003)

20 Pope (2015)

21 Hetts Estep (2003)

22 http://www.auf-den-hund-gekommen.net/-/Buzz_Blog/Entries/2015/7/31_Quadrants_Schwuadrants.html

and guided into expressions and form. Behaviors belonging to the same class are normally educed by a common set of learned or innate triggers subserving the drive function. For example, behaviors belonging to the higher-order class subsumed under the prey drive share with one another (among other things) the motivation to chase and grab moving things. The performance of drive-related behavior is frequently intrinsically reinforcing

for dogs; for example, finding and taking food or detecting and escaping/avoiding a threat are strong sources of reward. Drive activities possessing less tangible sources of gratification are also often highly reinforcing for dogs to perform (e.g., chasing a ball or playing tug games).

Social play is a special modal activity wherein integrative projects are rapidly exchanged between play partners to produce

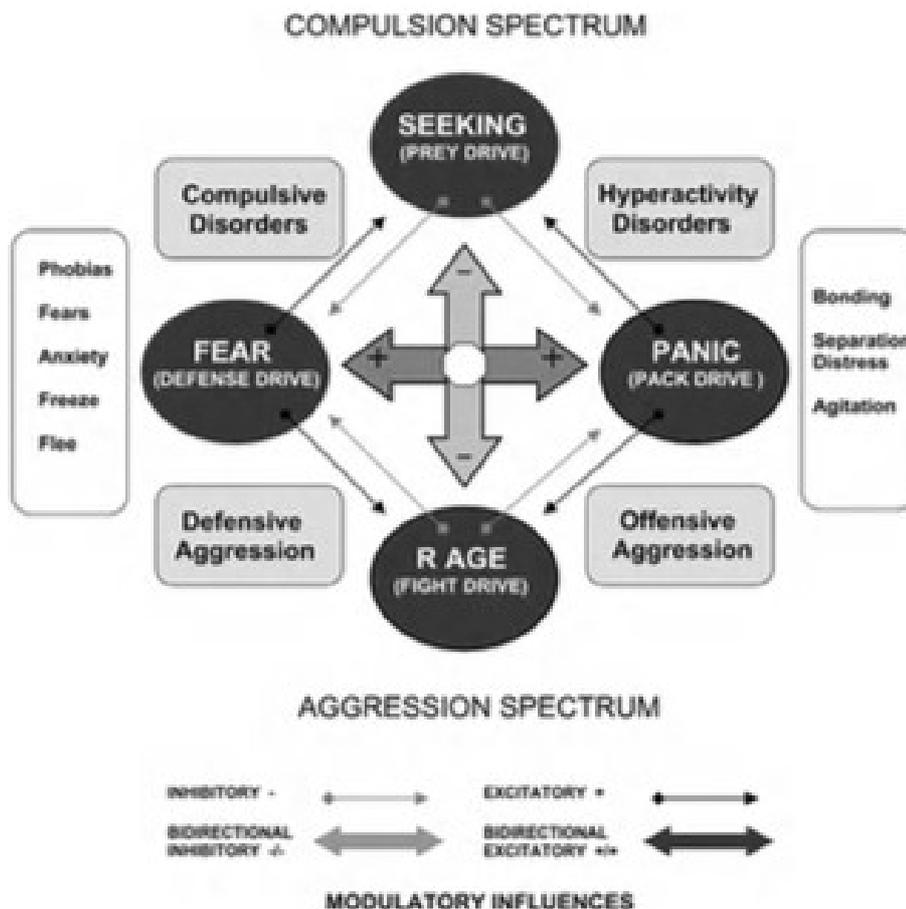


FIG. 6.2. Drive and emotional command system. According to Panksepp, behavior is under the influence of four interactive emotional command systems involving fear, seeking, panic, and rage. Panksepp's emotional command systems closely correspond to the traditional drive or instinct systems ascribed to dog behavior by trainers (see Most, 1910/1955). The activation of these various systems exerts an excitatory or inhibitory effect on other systems. The seeking and rage systems exert a reciprocal inhibitory effect, whereas fear and panic produce a reciprocal excitatory effect. Panksepp's system provides a framework of scientifically validated neurobiological influences for understanding the dynamic interrelations between emotional systems and the expression of adaptive and aberrant behavior.

When I read the entire section, especially the text immediately below the graphic, several things became clear. Since I have both Panksepp books, I first looked in them for references to *drive* and to this “Spectrum” and found nothing under “Compulsion Spectrum” in either book.

The only mention of drive in Panksepp's "*Affective Neuroscience*" book 1998²³, was: (p. 168, top left)

"Drives, Incentives, and Appetitive Arousal in the Brain

In the old psychological terminology, the bodily need detection systems were thought to generate "drives," but the use of that concept has diminished as we have come to realize that such a broad abstract intervening variable cannot be credibly linked to unitary brain processes."

This was the only mention of drive in the entire book and with it he also joins the ranks of those finding that *drives* as a term describing a process, is not exact or specific enough.

In Panksepp's newer "*The Archaeology of Mind*" (2012), "**Drive Theory**", drive is supposed to be mentioned on page xiii, but is not, so I assume it was edited out of the text at some point. To be sure, I read the entire part and the preface as well as page 13. No mention of *drive*, *drives* or *drive theory*.

At first I thought, that maybe Lindsay hadn't read Panksepp's 1998 book, but he had – as it's in his bibliography. It's clear however, that he did not get any connection from Panksepp to the drives he mentioned, when Panksepp himself didn't mention drives or their theory in the text of the book itself.

Lindsay (2005) writes on page 12 "*Panksepp's quadrant of emotional command systems nicely dovetails with the primary drives traditionally ascribed to dog behavior.*" (notice the word "traditionally?") but these four are not labeled by Panksepp in his book as a "quadrant of emotional command systems", the four, specifically SEEKING, FEAR, PANIC and RAGE are the systems he felt were of primary importance – then, in 1998. He does mention "emotional command system", but does not name these as being specific elements, nor in connection with this command system at all. The entire concept of emotional command circuits has been dropped in Panksepp's 2012 book. I'm not even sure if it's been replaced, re-worked or what. But the drawings, vocabulary and explanations are gone.

Lindsay did however write, that he finds similarities between these four Affects and the drives he put in the graphic and therefore linked them together. BUT he cites no sources that would substantiate this theory of his – which would indicate, it's his theory and his alone. In fact, this entire section of the book, which is otherwise FULL of sources from other scientists, is bare of any such sources. In other words, this is Lindsay's un-documented theory that has no empirical evidence to support it.

Not only that, but he also makes some assumptions and claims that Panksepp had disavowed:

- 1) that *drives* as a term are useful or even exist, Panksepp himself only called them a "concept", not a substantiated thing.
- 2) What Lindsay in 2005 couldn't have known was, that Panksepp in "*The Archaeology of Mind Neuroevolutionary Origins of Human Emotions*"²⁴ writes, that a mammal can very well experience two different Affects at the same time and that they may compete with each other and names specifically SEEKING and FEAR, and in many situations, CARE may also be in play at the same time. In fact that SEEKING combines in one way or another with them all.

So what we have is, summarized:

- ➔ Panksepp writes in 1998, that *drives* are an outdated idea and that his **Affects** serve us better
- ➔ Panksepp then maps out in the brain in both relevant direction the places in the brain, where these **Affects** can be found
- ➔ Panksepp then in his 2012 book states that SEEKING and FEAR even CARE can and do exist at the same time and will take the upper hand, where necessary as determined by the environment:
 - ➔ Lindsay cites Panksepp's 1998 work as to the existence of the **Affects**, then writes:
 - ➔ "Panksepp's quadrant of emotional command systems nicely dovetails with the primary drives traditionally ascribed to dog behavior."²⁵
- ➔ This says to me, that he's taking that old fashioned Freud/Lorenz **Drive Theory** that Panksepp rejects as useful today and squeezes Panksepp **Affects** into it anyway.

23 Panksepp (1998)

24 Panksepp (2012)

25 Lindsay (2005)

- ➔ It was Lindsay's idea to use four of Panksepp's **Affect Systems**, layering them over *drives* with no substantiation of validity, thus simplified and not thoroughly explained and reconfigured, to be his own opinion without clearly identifying it as his opinion.

Often the term *drive* is used today in papers done about breed characteristics or effectivity for a specific job. The authors generally do not reference their use of the term. Here are just a couple:

“Drive is a motivational characteristic inherent in a dog. Drive cannot be trained, but is a required element of a working dog. Without drive, a dog has no motivation to perform or work. Three types of drive are relevant to wildlife detection dogs: hunt, prey, and play. Hunt drive is the dog's persistent desire to find something, which is critical for wildlife detection work. A dog with very high hunt drive will search for its target despite fatigue, difficult terrain, or adverse environmental conditions. Hunt drive is what motivates dogs to search for hours without distraction from task. Prey drive is the dog's desire to chase. For live animal wildlife detection work, prey drive is acceptable only to a limited degree because prey drive can lead to unacceptable chasing or destruction of the target. Play drive is the desire to retrieve or tug with a human. Play drive is necessary to train the dog to alert upon locating the target. The dog will perform the task (the trained alert once the target is located) to gain the reward of a toy to retrieve or a game of tug. The combination of hunt and play drives is most desirable in a wildlife detection dog. Prey drive is acceptable in dogs that are trained to find inanimate objects that do not move, because inanimate objects do not elicit chase.”²⁶

Above we have a passage that sounds rather informative and useful. And it would be, if not for the previous discussions, in which we've established, that *drives* as such, as provable “things”, just don't exist, especially not in the form described here. Moreover there are statements made, statements of “facts”, that are not referenced or sourced. What *drive* is generally, which *drives* are needed (named) and what behaviors per *drive* are expected. None of this has actually been researched and documented that specifically. Yet we're expected to believe them as they are. Now even if this is a short-hand for some other type of motivational language, it's just not very precise, as Panksepp said.

The term *drive* or *prey drive* pops up now and again throughout the present ethological world, mostly having to do with dogs and rarely if ever sourced. As if it is something that is so completely well understood, that a scientific source needn't even be mentioned. Two of the most well-known and most often cited studies that use the term *drive* and do so not only extensively, but even as a crucial aspect of their findings, are Wilson, Erik & Sundgren, Per-Erik (1996) and Wilson, Erik & Sundgren, Per-Erik (1997). All of the sources given in the bibliography for these two studies had to do with genetics, except one. And that one “other” source being their own other breed study!

As also found in the study by Cablk & Heaton (2006), the term *drive* in combination with the various behaviors/traits/characteristics being tested, was never sourced as to where this came from, nor upon what the specific characteristics of each tested *drive* was based. Many statements of fact without any substantiation. And that is the problem. Very, very few sources are given in either study for such important criteria, yet these studies are quoted dozens of times, thus perpetuating a fallacy. Just naming it, does not make it true²⁷. It probably could have been more accurate to have taken observed levels of arousal (see below) comparable to a baseline state as a measurement of behavior shown.

We see the same problem in Ruefenacht et al (2002) in the Abstract:

“In this study, genetic and non-genetic effects on behavioural traits were estimated, based on records of the field behaviour test of the Swiss German Shepherd Dog breeding club. This standardized test has been applied since 1949 and comprised the following seven traits: self-confidence, nerve stability, temperament, hardness, sharpness, defense drive and fighting drive.”

Lots of statistics for all seven criteria, but we just don't know what they were judging as *defense drive* and *fighting drive*, probably are something else, but possibly not that – but it has been part of a standardized “field behavior test”.

They reference Wilsson and Sundgren mentioned above, but ... Wilsson and Sundgren didn't reference

²⁶ Cablk & Heaton (2006)

²⁷ <http://kspepe.com/fallacies/fallacies.php>

anyone about drives in their studies.

Personally I also find it interesting that they (Ruefenacht et al.) wrote:

“2.2.8. Part 8: Fighting drive (not tested since 1990)

The handler holds the dog. The judge threatens the dog (in the same way as described before in part 7). The dog can be gently struck with a flexible, padded stick. Two blows can be given on the flanks, thighs, or withers. The handler encourages the dog to attack the `enemy`. Now the judge runs 20-30 m away. The handler lets the dog go, still encouraging it vocally to attack the escaping judge. The judge turns around before the dog reaches him. Although using aggressive and threatening motions, words, and gestures with the stick, the judge does not beat the dog anymore. The handler stays in the same place and is allowed to encourage the dog to `fight`.”

This is almost like the end of the “Bark on Hold” and then the “Escape” exercise in Schutzhund (part C) of IPO. They do not explain why this was not tested anymore. No conjecture here.

In fact, spending a couple of hours just tracing ANY mention of *drive* in Elsevier alone, I only came up with studies mentioning “prey drive” or “defense drive” and referencing Wilsson & Sundgren. This is the circular effect that a set of studies regarded as key studies can have on fellow scientists when evaluating sets of data IF they are not aware of better criteria to test by. When mentioned in their own studies, there is no sign, that this reflects an earlier state of the research, not today’s.

One “modern” use of the term *drive* is as a synonym for something else they deemed necessary to define. For example this excerpt:

“In this article, we examine emotional perspective taking with respect to drive states. By drive states, we mean motivations caused by bodily needs such as exhaustion, hunger, and thirst.”²⁸

In reading through the study, one sees, that the use of the “drive states” only had to do with one or more of these three “needs” so that it appears to have been chosen to mean “two or more of these three basic physical needs”, NOT “one of these specific drives”. The word *drive* did not appear by itself at all.

Another such individual re-usage of an old term to find a new situation could very well be:

“Here we report the first demonstration of individual differences in neural responses to pictures of appetizing foods related to variation in trait reward drive (i.e., the tendency to pursue reward).”²⁹

There is also no reference as to what kind of *drive* model they are basing this on. Freud, Lorenz, Tinbergen, Hull or ???

28 Leaf Van Boven, George Loewenstein (2002)

29 Beaver et al (2006)

Contemporary uses of the term drive by trainers and other experts

In the dog world, old outdated ideas die hard. The idea of *drives* is one of these ideas. *Drives* are terms, jargon to use, to set your knowledge apart from that of others. This knowledge establishes one as an authoritative figure. A bit of Milgram^{30,31} at work? One of the ways one could possibly even be successful in doing so, is by citing older scientists, such as Freud, Lorenz or others, who still enjoy name-recognition and use them as “sources” without either doing further research to see if their theories are still accepted, or even having done so and simply ignoring that they often are not.

How often have we heard: „So here we want to ramp up the dog’s prey drive, so we’re going to (insert exercise)“ or “The dog is not showing high defense drive” It makes this easier for the dog owner, forms it into nice bite-sized chunks and on the other hand, gives „experts“ material to present in the coming seminars for would-be experts. They too have to have some bits of information of semantic common knowledge, that they can use with their clients and students. It doesn’t really matter at that point, if it’s empirically true or not. Repeated often enough, it takes on a life of its own and becomes “true”. In Psychology, this is called the **Mere Exposure Effect**, research by Robert Zajonc³²

As usual, there seems to be some disagreement as to who brought the term *drive* to the dog trainers/owners first. And what who means with that word can also be very different. So I will avoid that trap completely. In some cases, the person’s own biography might present some clues if you want to look into them.

Donn Yarnell, an internationally known trainer of police dogs and owner of *K9 Cops Only* wrote:

“Drive theory was initially developed in clinical trials by scientists in an attempt to learn and describe how all animals learn, but had little to offer in respect to practical service dog training. Then some very astute trainers with considerable experience and success developed a very strong and practical system of training based on what they called drives. Although it was not really based on the original scientific drive theory in the purest sense (it was really based on instinctive responses), the foundation for their training was very solid. Their “Drive Theory” specifically addressed the dog as a unique species instead of lumping all animals together.

...

A Drive is a genetically hard wired, involuntary response triggered by circumstance and certain actions by other animals. No matter how much we wish or try to manipulate, a dog either has it or he doesn’t. You can’t put it into him. It’s genetic and no amount of manipulation can change that. You can certainly suppress or override some Drives with higher survival priorities such as with an unpredictable (in the dog’s eyes), violent, over dominate handler, avoidance training, punishment “shock therapy”, or the arrival of another strange male dog. But you can never really put it in, enhance, or take it out of the dog - especially at the pronounced level.³³”

I’m not sure, but I think he might be pushing it a little to say, that the original “Drive Theory” was developed “in clinical trials” - he doesn’t list any sources for any such trials, nor for this information. As to how genetically hard-coded these drives are, it would seem that they are, in spite of that, just barely manipulable. Yet, in many sports, we see that dogs learn NOT to show these behaviors which he claims are covered by drives ... until allowed to. So it all seems rather iffy even from “their” own perspective and point of view.

But I’m not listing people here to comment on their training techniques, nor on their training abilities, ethics, morals or anything except **their usage of the term drive**. Some of these trainers were recommended to me, some I’d heard of already, seen videos of, read of or read their literature. I will include a few direct quotes from their own sources were appropriate.

Col. Konrad Most – has been called the first trainer to have used the term *drive*. Because his books were originally in German, we don’t know for sure if the word *drive* was translated each time correctly. In his book “*Training Dogs - A Manual*” (1910) he described certain rather modern methods of operant conditioning, years before Skinner first published his works on the same subject.

30 https://en.wikipedia.org/wiki/Milgram_experiment “Milgram experiment on obedience to authority figures”

31 <http://www.examiner.com/article/the-milgram-experiment-and-how-it-relates-to-dog-training>

32 Robert Zajonc (2001)

33 <http://www.k9copsonly.com/drivescivil.html#top>

I have come across individual pages of Most's book and it's written, as most instruction books are, without any scientific references whatsoever. So when he uses the word "instinct", we have no idea upon what scientific knowledge he's based this application of the word to a specific behavior. In any case, he has been called the father of modern dog training. His training methods were to create a master-subordinate relationship and for the most part to train using avoidance techniques. He used instincts to explain why dogs acted the way they did before, during and after training. He influenced later generations up to and including **William Koehler**, who in his book, "*The Koehler Method of Guard Dog Training*" rarely mentioned the word drive or "instinct".

Jack and Wendy Volhard³⁴ - They have been training, according to their website, for thirty years, meaning at least since 1985 or earlier. They claim to have been the first to have actually written down the necessary information about drive, but that it had been handed down from generation to generation for years.

"A founder with husband Jack Volhard of the so-called motivational method of training, Wendy Volhard attended a Schutzhund seminar taught by German trainer Jorg Silkenath. She became intrigued with the concept of drives and did further research before writing a series of articles for Off-Lead Magazine.

The concept is simple--dogs have different personalities and therefore different learning styles, and techniques that work with one may not work with another. Thus some dogs obey with almost whispered commands, and others need firm words and stern expressions. Some dogs panic at quick movements and others stand their ground. Some dogs need wide space and others are not happy unless leaning against the master's leg.³⁵"

Dr. Helmut Raiser – a German dentist, is another well-known Schutzhund trainer and speaker. I've been told, that many credit him for having revived the modern Schutzhund sport. In a well circulated interview, the American trainer Armin Winkler introduced Dr. Raiser so:

"About 20 years ago Helmut Raiser revolutionized Schutzhund protection training by identifying which inborn motivations (drives) are stimulated in the different phases of training. He did not just assign specific names to these motivations, he combined years of practical experience and research with the clinical studies and their results of such behavioralians like Brunner, Hediger, Lorenz, Most, and Trummler among others, to determine on a scientific level what drives are and how they fit into protection training.³⁶"

He also mentioned these "clinical studies", like Mr. Yarnell above.

A side story. There has been a meme circulating, that it's been proven in a German study, that prong collars are safer than choke collars. In every single mention of this study, the text is:

A Study on Prong Collars was done in Germany:

100 dogs were in the study. 50 used choke and 50 used prong.

The dogs were studied for their entire lives. As dogs died, autopsies were performed.

Of the 50 which had chokes, 48 had injuries to the neck, trachea, or back. 2 of those were determined to be genetic. The other 46 were caused by trauma.

Of the 50 which had prongs, 2 had injuries in the neck area, 1 was determined to be genetic. 1 was caused by trauma.

The numbers seem to speak for themselves.

(Information about this study taken from an Anne Marie Silverton Seminar)³⁷

When you try to find "Anne Marie Silverton", there doesn't appear to be a real person attached to that name. Everyone who has heard of this study has searched high and low, all find the same thing – the same text and no Anne Marie Silverton. People, including myself, have tried to send her an email through an address given, with never a response. Her web site has been under construction for years. In the same manner, I'm wondering if this thing about clinical studies concerning drive is true. When they took place, under what circumstances and was there any further research done with those "findings". I'd be thankful for any direct

34 <http://www.volhard.com/pages/pat.php>

35 <http://www.volhard.com/pages/pat.php>

36 <http://www.schutzhundvillage.com/drives.html>

37 <http://k9-trainer.com/infopages/general%20information/correction%20collars.html>

leads on this or the “German Prong Collar Study”.

Ed Frawley – Many people have heard of Leerburg Kennels. He’s a breeder of imported German Shepherds. Mr. Frawley has trained dogs for Search & Rescue, Schutzhund, Law Enforcement and Personal Protection. He was a narcotics dog handler in Dunn County, Wisconsin, USA. He also produces training DVDs and sells equipment³⁸. On his first web page about drives³⁹, he lists only *prey drive*, *defensive drive* and *fight drive*, but on the third page about *drives* on his web site, he lists many more, but gives only very short descriptions of them⁴⁰. But on yet another page⁴¹ he goes into things like *drive thresholds*. As opposed to Mr. Yarnell, he is of the opinion, that one can work with the level of existing *drives* within the dogs, but there are limits as to their usefulness in trials or on the street.

	<u>Konrad Lorenz</u>	<u>J. & W. Volhard</u>	<u>Helmut Raiser</u>	<u>Donn Yarnell</u>	<u>Ed Frawley</u>
<i>Prey drive</i>		X	X	X	X
<i>Pack drive</i>		X			
<i>Defense drive</i>		X	X	X	And Protection drive
<i>Fight drive</i>		(X) see defense	X		X
<i>Flight drive</i>		(X) see defense			X
<i>Hunt drive</i>	X (Trieb & Instinkt)			X	X
<i>Tracking drive</i>					X
<i>Air scent drive</i>					X
<i>Retrieve drive</i>					X
<i>Guard drive</i>					X
<i>Rank drive</i>				X	X
<i>Trainability</i>				X (Learn drive)	X
<i>Homing drive</i>					X
<i>Play drive</i>				X	X
<i>Activity drive</i>					X
<i>Aggression drive</i>			X		
<i>Motherly protection drive</i>	X				
<i>Bringing young in from outside</i>	X				
<i>Care of the brood</i>	X				
Specific sources given:	None	None	Names only	Names only	None

38 <http://leerburg.com/history.htm>

39 <http://leerburg.com/drives.htm>

40 <http://leerburg.com/drives3.htm>

41 <http://leerburg.com/drives2.htm>

Drive vs Instinct vs Motivation vs Arousal

Drive vs Instinct – One of the problems with this whole *drives* thing is that many of the scientists may use this terminology interchangeably or worse, say the one when they mean the other. Hinde⁴² writes of Tinbergen's theory, for example:

“Tinbergen, considering the total behavior of the animal, uses a basically similar analogy when he speaks of 'motivational impulses' accumulating in 'nervous centres' where they are held in check by a 'block' which can be removed by an 'innate releasing mechanism' responsive to particular external stimuli. The 'centres' are supposed to be arranged in hierarchical systems each of which constitutes an 'instinct'.”

This was describing Tinbergen's **Hierarchal System of Centers** as compared to Lorenz's **Hydraulic Reservoir**. This may lead some people to start to equate **motivation** with **drive**.

It doesn't help matters much, when scientists either cannot agree on how these *drives* work or even say, there are different mechanisms involved, meaning *drive* may function in one instance in one manner, yet on another instance in another completely different manner. Hinde once again described three different “types” of *drive*.⁴³

- 1) Similar to a sense, as in a central state caused by hormones etc. which initiates outwardly behavior. And Hinde writes: *“The ways in which ethologists have used 'drive' in this sense often indicate the presence of hidden 'existence postulates' which are at least irrelevant, and often misleading.”*
- 2) All initiators except external ones, or a “specific readiness to respond to releasing stimulus” and
- 3) A combination of the two above. Behavior resulting from either these internal or external stimuli. I read this to mean that any and all behavior is caused by *drives*. I think we'll run into some problems with this one later, when looking at how the term is now used.

Hinde also himself posed the question, if behavior is reduced through habituation, is the *drive* also reduced? This had, up to this point, never been answered. This placed Lorenz's **Hydraulic Reservoir Theory** and Tinbergen's **Hierarchal System of Centers** theory in question. And if, as per Tinbergen or Hull, will there still be a release toward an object (stimulus) that would not normally evoke a release? For by the Lorenz/Tinbergen/Hull concept, one specific stimulus always evokes the same specific behavior. Yet we know that is not the case. They've even been given a name **Leerlaufreaktion** (vacuum activity)⁴⁴. Freud btw., did NOT say that a certain drive is always tied to a certain stimulus.

And to make things even more complicated, in the original German, Lorenz himself did not make a difference between *Trieb* (drive) and *Instinkt* (instinct):

*“Als einen Instinkt oder Trieb bezeichnen wir ein im ganzen spontan aktives System von Verhaltensweisen, das funktionell genügend einheitlich ist, um einen Namen zu verdienen. Der Instinkt wird also auf physiologische Prozesse, letztlich hypothetisch auf Verschaltungen von Nervenzellen im Gehirn zurückgeführt.”*⁴⁵ (We call any spontaneous activated system of behaviors an instinct or drive, which is functionally the same enough to receive a name.)

Lorenz's book *“So kam der Mensch auf den Hund”* (1950) is a description of his own life with his animals at home and he takes great pains to describe the behavior of his dogs as well as his other animals using his own scientific language.

I made a list of the times he writes about *Trieb* (drive) and *Instinkt* (instinct) since at least as late as 1950 in this book, he didn't seem to make much difference between them, perhaps in some cases lumping them together using *Instinkte*:

“Jagdtrieb” (hunting drive) page 99

42 Hinde (1956)

43 Ibid

44 Lehrman (1953)

45 Lorenz (1950)

“*Pflegetrieb*” (motherly protection and care drive) page 107

“*Brutpflegetrieb*” (care of the brood drive) page 150

“*Einträge-Trieb*” (what he called bringing the young of another animal into the house) page 171

These are the only ones he mentioned for all of his animals! On the other hand, when he wrote of instincts, he wrote about these:

“*Jagdinstinkte*” (hunting drives – N.B. more than one??) page 146

“*Brutpflegeinstinkt*” (care of the brood drive) page 171

“*Kein starrer Instinkt veranlasst einen Hund, seine Liebe dadurch auszudrücken, dass er seinen Kopf auf das Knie des Herren legt.*” (No rigid instinct moves the dog to express his love for his master, in that he lays his head upon his knee.) page 179

Lorenz never used *Trieb* (drive) in the plural form for example for a group of similar drives. But he did use *Instinkt* in the plural form in that sense, as well as to use it as a type of adjective or adverb, such as *instinktmässiges* behavior (instinctual behavior). Not being an Ethologist, I have no idea of the relevancy of this. But I'm left wondering if that difference was not made in later years after Lorenz by others.

BTW – for those of you who speak German and wish to read his attempts to interpret body language, this is an interesting work. It is however not very scientifically written, certainly not the work of structured research. But he does bring the results and the theories of said research to these descriptions. So we have rather anecdotal description with a “scientific foundation” and this explained. The question of course remains – are these descriptions accurate? What they are however, very interpretive.

Motivation – *Drive* hardly gets a mention in current theories of motivation, only in the historical perspective, i.e. what they are no longer understood to be⁴⁶. I can only imagine, that if the authors are going so far to be looking into the science of motivation, that they've already decided, that *drive* has nothing to do with it. **The Incentive Theory of Motivation**⁴⁷, on the other hand, seems to be a factor and to connect well with the consequences of the beloved ABC contingencies. It states that we are drawn towards performing the behaviors which promise to be rewarding and we avoid behaviors that promise to be unpleasant.

And motivation is not something static in nature. If you are hungry, food will be more of a motivator than if you're full. And certain things may be rewarding in one context but not in another. When alone with your parents, it might be very rewarding to be praised by your parents, but maybe you'd rather not have your best friends hear your parents going on about you in that manner. So like many of us say, a dog determines what is rewarding. Thinking about operant conditioning and the consequences of a behavior, that would also be the strength of incentives. So if the dog understands, that if she performs properly, she'll get fish instead of kibble, we are using a higher incentive to get that better performance from the dog.

Motivation can be intrinsic or extrinsic. **Intrinsic motivation**⁴⁸ is when we are motivated by the good feeling we get “inside” for doing something – because it's enjoyable in and of itself – it's fun! **Extrinsical motivations**⁴⁹. is a motivation derived from external stimuli. Receiving something pleasant or even avoiding receiving something unpleasant are **Extrinsical motivations**. Behaviors therefore can be motivating in an of themselves. They can be simply fun to do (intrinsic) or they can get us the possibility of performing an even better behavior if we do the first one correctly.

46 Berridge (2004)

47 <http://psychology.about.com/od/motivation/a/incentive-theory-of-motivation.htm>

48 <http://giftedkids.about.com/od/glossary/g/intrinsic.htm>

49 <http://giftedkids.about.com/od/glossary/g/extrinsic.htm>

Arousal is something that appears on a continuous hierarchal scale or spectrum and is dependent upon the history of the subjects previous exposure to a stimulus.

“The construct of arousal, which is often used interchangeably with other intensity-related terms such as drive, tension, and activation, refers to the degree of energy release of the organism, which varies on a continuum from deep sleep to high excitement (Duffy, 1957). This energy is sometimes inferred from behavior or self-report measures of behavior, but is more commonly measured centrally by means of an electroencephalogram or by peripheral, autonomic measures such as heart rate and muscle tension.⁵⁰”

Technically speaking, it should be now possible to say that a certain behavior shows a **high rate of arousal** or a **low rate of arousal** and if you would then actually conduct measurements, you could compare that to a baseline (homeostasis) state and you could even say by how much. One of the first to discuss this method of measurement of arousal was Elisabeth Duffy⁵¹. It is now fairly easy to show, that arousal to an external stimulus then triggers processes in the brain which of course control outwardly expressions of that arousal in behaviors.

That the **anticipation** of some event would modulate some kind of reaction, either good or bad, depending upon whether that stimulus and the subject’s history with this stimulus^{52, 53} has also been shown. It would also seem rather easy to explain this as one of the reasons for **speed** and **latency** when performing a specific task. Whether or not a dog is motivated, either intrinsically or extrinsically, can be determined by heart rate, pulse, cortisol level and even brain activity (Panksepp 1998 & 2012). These aforementioned measurable internal levels are the biological and neurological data that is nice to know, but of less pragmatic use on the training field. It is good to know however, that these translate directly to observable behavior via outwardly indications of these internal biological and neurological states. While Duffy and others were and are able to trace the physiological changes in the system due to this exposure to a stimulus, we now know through fMRI technology⁵⁴, pretty much how much activity takes place in the brain and where, which is then responsible for the physical manifestations of that **arousal**, both with positive and with negative types of stimulation.

50 Landers (1980)

51 Duffey (1957)

52 Hugo D. Critchley et al (2001)

53 O’Doherty et al. (2002)

54 Tsafirir Greenberg et al (2014)

Conclusion

Or ... if not “drive”, then what?

The history of the term and the concepts of *drive* is twisted, sometimes intertwining through different types of science with their own meanings of the word. In most cases, *drive* has lost either its validity through disproof by some or because it's too simple and vague by others, having been replaced with more apt, descriptive terms. There is/was not even a consensus amongst scientists, whether *drive* is something that can be changed or formed. **One consistency is/was, that it must be present in all examples of a species to be a drive. If it's not, then it's something else, but not drive.** The description of a dog “That dog has no prey drive” is therefore simply not accurate. The dog may not want to play with a ball. Or with that particular ball. Or be tired, bored. But that's not a lack of *drive*. Change the toy, the person, the place it's being done – and you may see a completely different dog.

Definitions of the word *drive* seems to be all over the map. Some trainers use it in a rather judgmental manner, to explain why a dog did well, didn't do well, can do well or can't do well in a specific dog-sport, part of a sport or single behavior. Seen in that manner, it would seem, that the trainer doesn't play such an important role. “Either you've got it or you ain't” (about the dog). “*The dog has no prey drive. Get another dog.*” But still others give the term, and through that the animal, more latitude, and therefore they train with a bit more personal responsibility in saying, that the amount of *drive* in an animal will determine how far the trainer can work with it and the dog to achieve which goals. No consistency in definition or application of the term.

Drive is therefore, as used today in all it's forms, not very helpful in knowing how to train. You can't buy a new bottle of *drive* to apply. You can't buy a “*drive* machine” or a “*drive* toy” to train more *drive* into the dog. You might be able to train more *drive* into a dog IF you believe that you can. And there is even a school of training that wants to “ramp up the dog's *drive*” to then dampen it and control it. But are we really talking about the same thing?

Not liking to leave things in a vacuum, what IS it then that we are seeing and what can we do to influence it?

I would suggest, as already introduced above, that it would be much more useful to consider such things as:

motivation

anticipation

arousal

Seen from a baseline of “no behavior” or “calm”, we can see physical changes in the dog's demeanor, going from “calm” to “aroused”. If it's before the actual behavior, we can posit, that this is in **anticipation** of the coming behavior. And since motivation, especially of the **Incentive Theory of Motivation**, ties in so well with the consequences of the ABC contingency

A=Antecedent stimulus=(environmental) cue

B=Behavior

C=Consequence

Especially the C=Consequences part, the **motivation** for doing something could and should be, that the last time, it was so rewarding (as Consequence) to have done so, that the dog is looking forward to doing it again (**anticipation**/positive **valence**), and can hardly wait to do so (**arousal**). These three, in the right combination of intensity, will have an effect on **speed of performance** and on **latency of performance**.

These three things, which can be measured and charted relative to a baseline and analyzed for effectiveness, present us with a much more concrete manner to structure actual “real-life” training. Training which I personally would hope would progress:

the **motivation** of positive learning history ->

anticipation of coming behavior ->

shown through signs of **arousal**, the “C'mon, let's GO!” posture and tension in the dog →

leading to the expected performance of the behavior and

if not optimal, adjustments can be made.

Let's take just one *drive* as used today – *prey drive*. A dog is given a task, the same task that other dogs are given, and its performance is compared to how other dogs have performed the same task in the same manner and then labeled as being in high *prey drive* or not having a very high *prey drive*. If all dogs except Rover dash madly after the ball, does Rover have less *prey drive* than the others? This seems on the surface to be very objective.

We can see, that ... what can we ACTUALLY see?

Do we see a lack of *prey drive* in Rover? No. We see a difference in speed and maybe a lower engagement with the toy. Is THIS a difference in *prey drive*? Or can we be seeing a difference in incentive based **motivation**? Perhaps the dog simply doesn't like that particular ball, but throw a toy that bounces every which way when it hits the ground and the dog is all over that one. Judgements about a dog's lack or excess amount of *drive* are situational, having to do with a combination of factors, that when changed, could come up with another result and another judgement. The dog may have inhibitions to chase a ball or even his favorite toy, if the dog has been trained to only touch an object when given permission to do so. Or only if the dog's owner throws the toy. Also, a dog may be very **motivated** to get that ball, is highly **aroused**, can almost not be restrained from running after it when thrown. But that dog is an Irish Wolfhound and all the others are Border Collies. Does this Wolfhound have less *prey drive* or "just" less speed? Does this Wolfhound have less *prey drive* or is he "just" less aroused?

The use of *X-drive* to describe what we see in a dog is highly interpretive, but does not really describe what is happening inside the dog. What we see through this subjective label is only what we interpret that to be, which often is more of a reflection of expectations set by people and not what the dog is capable of doing. Change the object of the test, perhaps the person conducting it, the valence and we may have different results anyway. So it may actually be a case of often seeking the problem by the dog and not the solution by the trainer.

Let's take the evaluation of *prey drive* in a dog. Take all the dogs, use the

- ➔ same **motivation** for all, meaning for example, the specific toy each loves the most
- ➔ thrown by a person they love to interact with the most
- ➔ with no previous aversive learning history

and you can then chart **speed**, physiological **arousal** and record with camera the resulting **anticipation**, and you still will **not** have charted the amount of *prey drive* in the dogs. You will have made a good comparison of the relative **motivation**, **anticipation**, **arousal**, **speed of execution**, even **latency** of performance between the dogs. But not *prey drive* because by the different definitions we've seen of *prey drive*, there is no standard by which to measure for all dogs. It turns into a matter of opinion. This will outwardly look different from breed to breed, while in terms of physiology, one breed showing less speed may be more aroused and motivated than the first breed, just not showing this outwardly – may not be physically able to. Concrete criteria, comparable in concrete numbers relative to **breed, age, sex, size, state of health, weather, valence**. Using **motivation, anticipation, arousal, speed of execution**, even **latency** according to the aforementioned criteria to chart the difference between animals, you will be able to say that as a general rule, example of breed A performs this task this much DIFFERENTLY than the example of breed B or breed C. If you really want to base a judgement, take an average or even set standard values yourself and use this as a baseline, then let the dog(s) perform the task, take the results and compare them to this baseline. THEN you have a more accurate description of whether your candidate dog is appropriate or not. Well, it's a whole lot more objective than trying to guess according to something that has no basis in fact, like *prey drive*, which actually itself says a whole lot of ... nothing.

One -could- consider another possibility for judging **motivation, arousal and anticipation** as well as **speed/latency** in specific actions. *Play*⁵⁵. Since play is often itself self-rewarding, the trainer can teach specific behaviours, which may appear to be related to parts of the aforementioned **hunting action sequence**, but are performed as play by the dog. At that point it would seem rather unimportant to need to know, how much the dog is enjoying the play. The only question that would remain is, if the dog needs to be able to enjoy it more in order to get more speed and less latency, if this is desired by the trainer. And if there is a limit as to how much could be too much, considering how over-arousal may spill over into succeeding

55 Held & Spinka (2011)

behaviours, making them less accurate.

“What can I as the trainer do, to give the dog more **motivation** so that with the next trial, the dog is literally antsy with **anticipation** (dopamine surge) and show his **arousal**, when finally allowed to perform the behavior at optimal speed and accuracy with minimal latency?”

Those are much better questions to ask.

So concerning *drive*: *Drive* is not something that can be measured internally and can only be interpreted subjectively externally. But you cannot interpret externally what doesn't exist internally. Arousal can be measured internally and the effect extrinsic motivation can have on it as shown by the external behaviors. So it makes sense to discard that which is not scientifically relevant or expedient and adopt an approach having to do with things the trainer can influence to achieve the better performance. And it's not that a dog has more drive or less drive. That dog is an individual of a specific breed and as such will express the internal arousal based upon the motivating stimulus of the learning history in a manner that is characteristic for that individual of that breed. There is no standard behavioral characteristic applicable over all examples of all breeds that can be termed *drive*. The term drive is simply not relevant inasmuch as there are more accurate explanations for what is happening, and these give us more efficient ways of actually analyzing the behavior shown and effecting the desired change.

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Zusammensetzung auf Deutsch

Öfters auf dem Hundeplatz hört man den Begriff „*Beutetrieb*“, „*Jagdtrieb*“, „*Aggressionstrieb*“ oder „*weiss-nicht-was-alles-Trieb*“. Das stört mich manchmal, besonders, wenn dies als Erklärung verwendet wird, warum der Hund etwas nicht richtig gemacht hat. „Der Hund war zu hoch im *Trieb*“. „Er spürt das gar nicht, da er hoch im *Trieb*“ ist. usw.

Ich habe mir als Ziel gesetzt, herauszufinden, woher der Begriff „*Trieb*“ kommt, wie er ursprünglich benutzt wurde. Wer den Begriff aus welchem Grund zum Hundetraining übernommen hatte und was genau er heutzutage bedeutet. Ich stelle auch die Frage, ob es nicht doch noch nützlichere Begriffe, ja gar Kriterien und Tests dafür gäbe.

Zu der Geschichte:

- 1) Freud erfand 1905 den Begriff um eine Gruppierung der Emotionen in seine 2 Haupttriebe zu bündeln *Eros* = Lebenstrieb und *Thanatos* = Todestrieb.
- 2) Von seinem Mentor Oskar Heinroth übernahm Konrad Lorenz die Ideen von *Trieben* und *Instinkten*, stellte seine eigene Variation von Trieb zusammen und nannte dies das Psychohydraulische Instinktmodell. Dabei scheint er keinen semantischen Unterschied zwischen Trieb und Instinkt zu machen. Es fällt auf, dass er eher von *Instinkten* als von *Trieben* schreibt. Die Kriterien um ein *Trieb* oder *Instinkt* zu beschreiben, sind die Folgenden: (1) stereotypisch, (2) beobachtbar zumindest in einem Geschlecht einer Spezies, (3) genetisch vererbbar, (4) nicht erlerntes Verhalten, (5) wenn es in Gang gesetzt wurde, muss es unverändert bis zum Schluss ausgeführt werden und (6) wird von einem externen Reiz gestartet. Er benutzte selten, wenn überhaupt die Bezeichnungen „*Beutetrieb*“ oder die anderen „*Triebe*“, doch wenn schon wie oben erklärt, nicht wie „wir“ sie benutzen.
- 3) Lorenz's Freund Nikolaas Tinbergen hat 1956 seine eigene Variante aufgestellt: er definierte *Instinkt* als „einen hierarchisch organisierten Mechanismus im Nervensystem, der auf bestimmte innere und äussere, vorwarnende, auslösende und richtende Impulse anspricht und sie mit koordinierten, lebens- und arterhaltenden Bewegungen beantwortet: also ein komplexes System aus Schlüsselreizen, hierdurch verursachten inneren Zustandsänderungen und nachfolgenden Aktivitäten“.
- 4) C.L. Hull gruppierte oder nannte keine spezifischen Triebe, gab nur einige als Beispiel an und meinte, dass Triebe einzig und alleine als Reaktion auf äussere Reize spezifische Verhaltensmuster in Gänge setzen, welche immer gleich sind, und dann aufhören, wenn Sättigung erreicht wurde.
- 5) Alle Formen dieser Erklärungen von *Trieb* oder *Instinkt* haben bestimmte Probleme, z.B. Erklären warum man z.B. aus Höflichkeit an einer Party Erdnüsse annimmt, obwohl man keinen Hunger hat. Danach bekommt man Heisshunger darauf und isst die Nüsse weiter. Oder das man beim gleichen Reiz, einmal so reagiert und ein anderes Mal weniger oder gar nicht mehr darauf reagiert. Deshalb werden die Begriffe *Trieb* und *Instinkt* in der aktuellen empirischen Wissenschaft nicht mehr benutzt, um Dinge wie Hunger, Spiel, Jagen, Aggression zu beschreiben. Man sucht weiter.

Und wie weiter? Man sucht dort, wo man konkrete physiologische Beweise für Reaktionen auf sehr spezifische Reize sehen, quantifizieren und vor allem reproduzieren kann. Man benutzt die modernen Technologien, beispielsweise aus der Biochemie, Neurochemie, Neurowissenschaft und anderen Gebieten, um **Erregung**, **Erwartungshaltungen** und **Motivationen** in Zusammenhang mit bestimmten Verhaltensmustern zu bringen. Es gibt, besonders bei dem Thema **Motivation**, einige Beispiele von Motivationstheorien, die nützlich scheinen. Zum Beispiel die „*Incentive Theory of Motivation*“ welche besagt: Kann man etwas Gutes von einem Verhalten erwarten, freut man sich darüber. Kann man jedoch etwas Unangenehmes erwarten, freut man sich weniger. Dies ist natürlich sehr nahe an der operanten Konditionierung und es ist naheliegend, dass dies beim Training eine wichtige Rolle spielt. War es letztes Mal belohnend, könnte es so wieder sein (**Incentive Motivation** verursacht freudige **Erwartungshaltung**) Man kann diese Freude aufbauen, bis der Hund einen hohen Erregungsstand äusserlich zeigt. Bei Erlaubnis das erwünschte Verhalten zu tun, wird er es schneller als sonst ausführen.

Wenn man die sog. „*ABC Contingencies*“ wie unten dargestellt anschaut, kann man sich gut vorstellen wie gut ausgerechnet diese *Incentive Theory of Motivation* mit ihnen zusammenpasst:

A=Antecedent Stimulus=Anreiz (signal oder aus der Umwelt)

B=Behavior=Verhalten

C=Consequence=Konsequenz

A -> B ->C

Man kann schon heute Technologien wie EEG und fMRI einsetzen, um diese konkret im Hirn und restlichen Körper zu messen UND festzustellen, was sich verändert, wenn man gewisse Elemente in der Verhaltensumgebung verändert. Zum Beispiel können wir beobachten, dass ein Hund nicht so begeistert ist, wenn ein roter Ball geworfen wird. Hingegen interessiert er sich sehr für ein anderes Spielzeug. Dies kann man auch mit physiologischen Parameter messen. Dieses Beispiel zeigt, dass es hier auf das geworfenen Objekt darauf ankommt und nicht, wie gemäss Theorie ein „Beutetrieb“ immer die gleiche Reaktion ausgelöst hat. Aber *Triebe* müssen immer die gleichen Reaktionen auslösen, nicht einmal mehr und einmal weniger oder einmal ganz anders. Wenn das der Fall ist, ist das kein *Trieb*, sondern es muss eine andere Erklärung herhalten, beispielsweise **Motivation, Erwartungshaltung, Erregungstand**.

Wie der Begriff „*Trieb*“ bisher benutzt wurde und wird, erlaubt es dem Trainer eigentlich alle Verantwortung für das Gelingen oder Misslingen von sich schieben kann. „Der Hund zeigt einfach nicht genug *Beutetrieb*“. Doch hätte er mehr positives Interesse im gesamt Spiel, würde positive Konsequenzen am Ende erwarten, würde das Resultat anders aussehen. Dies ist der Verantwortungsbereich des Menschen. Somit kann man sagen, dass „*Triebe*“ wie sie im Hundesport verwendet werden, keinen Halt mehr in der Wissenschaft haben. Es gibt andere Möglichkeiten Erfolg oder Misserfolg zu messen.