

## The Basis of Thinking from Behavior Elements

Peter Pfeifer

Sense Machine Project  
Berlin, Germany

Email:

peter.pfeifer@sense-machine.com

Julian Pfeifer

Sense Machine Project  
Berlin, Germany

Email:

julian.pfeifer@sense-machine.com

Niko Pfeifer

Sense Machine Project  
Berlin, Germany

Email:

pfeifer.niko@gmail.com

**Abstract**—In brain decoding research, one thing in particular is neglected: basic drives and their relationship to behavior. Basic drives ‘drive’ to fulfill basic needs that are important for survival, the situation of life, reproduction, and good social relationships. The brain controls the behavior needed to attain these goals. This work shows that behavior is based on thousands of combinations of only 5 drive-related basic behavior elements. Since these behaviors vary in more than 100 different areas of life, they add up to a large number of human behaviors. These 5 drive-related basic behavior elements are the components for thousands of behaviors and terms that describe behavior. They have representations in the brain that give thinking its basis. These elements are the basic building blocks for both behavior and thinking about that behavior. It is an approach to reduce the thinking processes in the brain from very many different to very few building blocks. It can be an approach that helps brain research to get closer to understanding thinking through this reduction of elements in the direction of think modules.

**Keywords**—cognitive modeling; psycholinguistics; psychology; psychophysiology of cognition.

### I. INTRODUCTION

In the science of the brain, considerations start with information processing and end with information processing. Psychophysiology of cognition examines the functionality of the brain in relation to sensory stimuli and thinking [1]. In contrast to this research, we do not start from single, stand-alone drives but from combinations of drives. With the combinations, it is possible to understand wide areas of human behavior.

This work offers a model of thinking that divides behavior and thinking into elements. Behavior and thinking elements, all of which are drive-related. Drive goals *and* the methods used to achieve them are related to basic drives. Drive goals and methods are combined. These elements exist in a scenario of memories, and the memories are connected to these drives.

One example is the feeling of hunger. When one sees delicious food, one feels the urge to eat it. The moment one sees it, memories of that food and how one ate it come to mind. But when there is no food available, one feels bad. However, if one has just eaten a good meal and filled one's stomach, the urge to eat will be less, and one will not feel bad.

When a drive is addressed, a feeling of attraction to a specific object arises. This feeling is supplemented by another one that indicates the degree of drive satisfaction in relation to this drive. If a drive is not satisfied for a long time, one feels bad.

A drive ‘drives’ in order to do something that leads to the achievement of the drive's goal. The associated feeling of the state of drive fulfillment has the task of accelerating the execution of the drive process if necessary.

Another example is the sexual attraction that arises between a man and a woman. When two good friends (males) are talking to each other and one of them says:

“Yesterday, I saw a very attractive woman!”

The listener immediately has a picture in his head. He has ‘drive-related memories’ of related situations. He remembers a moment when he has seen an attractive woman, and he remembers the feelings he has had. These feelings relate to basic drives that are important to the survival of animals and humans.

The basic genital drive attracts a man to get closer to an attractive woman. There are other basic drives that oppose it. For example, if someone is married, he must not get too close to other women. It is also a basic drive to hold on to his partnership, and a conflict within one person between his drives is possible.

In neurolinguistics, it has been shown that a speaker and a listener synchronize their brains in a conversation [2]. This is so easy because they have the same basic drives. Keywords addresses the same basic drive of the listener as of the speaker. Only scientific topics that are far from basic drives require more effort to be synchronized.

The drives, more precisely the driving moments experienced, are the keywords for our memories and the basic building blocks for our behaviors and our language, which describe our behaviors. Linguists call it background knowledge. It is necessary to know many things about corresponding human behavior, so that it does not need more than a short sentence to create a whole scenario of circumstances in the listener's head.

It was postulated that it is essential to have background knowledge in order to be able to understand statements correctly. In semantic frame theory [3], it is said that one can understand a word only if one knows all aspects of the situations related to that word. To define background knowledge, many texts are required for each scenario.

In many researches, the importance of the objects for the drives is neglected. For example, in Semantic Components [4], there was an endeavor to classify objects. For example, woman = human + female. However, the drive importance of a woman for a man (and vice versa) is not specified.

The following shows a way that does not require a lot of text but takes into account the importance of drives. Section II explains the fundamentals of the basic drives. Section III shows the components of behavior (behavior described by predicates). Section IV shows the diversity of basic drives in different areas of life. Section V presents the role of objects in achieving drive goals through coding. Section VI shows the complex construction of objects by concatenating basic drives. Section VII. explains methods of this work. Section VIII contains the conclusions.

## II. DRIVE BASIS

Today, the science of thinking deals with information, information processing, and language. Behaviors are neglected.

In the human past, there was a struggle for survival. Today people in Western society no longer have to fight wild animals and do not have to work the field by hand to laboriously get a daily meal. So, one is usually not aware that fundamental drives determine our lives.

Nevertheless, basic drives remain in our striving and behavior until today. Before language, only behavior was the point that made the difference between life and death. Drives have the task of ensuring the survival of the individual and - in the case of social beings - also of society. Without this function, humans would have died out millions of years ago.

For social beings like humans, two things are extremely important: giving and getting.

- When one gets nothing (for drive 1), no food, no money; one will die.
- When one has no home, no safe place to sleep, nothing that belongs to one, nothing that is available (drive 2). In winter, one would die very soon
- When someone not being able to achieve goals or move to destinations (drive 3). This person would only survive with help.
- Giving (more generally, helping others with their drives, including teaching (drive 4) is very important for the society.
- When one would be blind and deaf. One would not be able to get vital information (drive 5).

Behaviors have the task of fulfilling drives. The behaviors and their associated drive goals are organized in a special combination system. This work shows it by coding with numbers.

Each number represents a basic drive that relates to the entire drive scenario and the associated *drive-related memories*. With this system, it is possible to understand the logical connections between activities and objects. Identifying the drives within human behavior means understanding the behavior and the texts that describe the behavior.

These basics can be found in different quantities and sequences as building blocks for thousands of behaviors and at least several thousand objects. The basic drives run through all areas of human life and dominate human thinking.

In the following, the connections are to be grasped logically and to be understood logically. All rules and relations of the following were recognized and not created.

## III. THE CODING OF BEHAVIORS/PREDICATES

Predicates are mainly used to describe behaviors. There are numerous predicates that contain two or more basic drives in combination. One single predicate contains one activity (of a human) that consists of two or more basic drives, which are executed simultaneously.

A linguistic paper [5] uses the above 5 basic drives and shows that the most important predicates and objects are combinations of these 5 basic drives. Each drive is subject to variations depending on the current area of life, but they are always derived from the same drive root. (Areas of life are similar to domains.)

In the physical area of life (one of around 100 known areas), these are:

- Drive 1. drinking, eating.
- Drive 2. holding back.
- Drive 3. moving.
- Drive 4. letting go.
- Drive 5. seeing, hearing, feeling - (perception).

For example, in the material area of life, the predicates/behaviors play the basic role:

- Drive 1. getting.
- Drive 2. determining\*/controlling (exercise of power).
- Drive 3. striving/moving (for reaching goals).
- Drive 4. good performing with work for others (to get money).
- Drive 5. informing oneself (also curiosity).

(\*Always determining in the sense of deciding.)

These predicates are '*Basic Behavior Elements*' since they are elements of combinations, *the building blocks, and key elements of the material area.*

One can get objects like:

1. Food, meals (objects for drive 1).
2. Owned objects such as a house or apartment, furniture etc. (objects for drive 2).
3. Mobility aids such as a car (objects for drive 3).
4. Work equipment such as machines or hand tools (Objects for drive 4).
5. Information devices such as computers or TVs (Objects for drive 5).

- The food corresponds to basic drive number 1.
- House or apartment belongs to basic drive number 2 because this is where the owner has the most determination/control.
- A car belongs to basic drive number 3 because it can be used to reach destinations with it.
- The work equipment belongs to basic drive number 4, because it can be used to perform work particularly well and earn money.

- A computer connected to the internet belongs to basic drive number 5, because it can be used to obtain information.

Any of these five objects can be reused with the five base drives. Each of them can be:

1. got,
2. determined/controlled,
3. strived/moved for this as a goal,
4. good performed (and earned money) with it,
5. or obtained information about it.

Each drive object can be combined with each drive activity (5×5).

An activity is a behavior that consists of a combination of Basic Behavior Elements. Activities are described by predicates. To understand the combinations within an activity, two more concepts are required: Goal and assistance. Each of the Basic Behavior Elements can be used as a goal or/and assistance. The following are some examples of activities with their basic behavior elements.

The predicate -fetch- consists of two Basic Behavior Elements: The drive *striving/moving* (drive 3) and the drive *getting* (drive 1). It would be possible to explain: ‘I want to get something, and it is not close, so I have to move to the position where it is. When I reach the position, I take it (again moving).’

This activity, reduced to its essentials, consists of moving and getting. The combination is drive 3 with goal 1. Both drives are combined with another.

Because drive 1 is the objective, it is marked as *goal*. The other drive is the *assistance* to reach the goal. There are many things that can be strived for or moved for, but the goal selects and constricts the type of moving to a specific direction, in this case to *get* something.

The predicate -bring about- consists of the drive *striving/moving* (drive 3) and the drive *determining/controlling* a desired state (drive 2). It is related to striving. The goal is a thing, device or arrangement that functions as desired. (Example: Repair a device, build a device.) It is necessary to move and handle something so that the result reaches a desired state. The combination is drive 3 + goal 2.

The predicate -go- consists of the drive *striving/moving* (drive 3) and reaching a destination (goal drive 3). The combination is drive 3 + goal 3.

The predicate -manufacture- consists of the drive *striving/moving* (drive 3) and the drive (work) *performing* (drive 4). One has to make *striving/moving* to *perform* well (drive 3 + goal 4).

The predicate -look something up- consists of the drive *striving/moving* (drive 3) and the drive *informing* (drive 5). It comprises to *strive* to a position or to *move* something to a position, from which it is possible to see something that leads to *informing* (drive 3 + goal 5).

All examples above use the assistance drive 3 (*striving/moving*) and the second are the goals: The goal adjusts the assistance (which contains many possibilities) to one activity. The principle is: A special assistance is used to reach a special goal. The term special means: One of the 5 Basic Behavior Elements with their numbering 1 to 5.

Each drive can be used as *assistance* and the second complement (again each drive) is the *goal*. The goal selects the type of assistance activity. The meaning of a predicate can be indicated by 2 (or more) code numbers.

In the same way, one can use any of the 5 elements as assistance:

- The drive 3 striving/moving assists the other drives in Table I.
- The drive 5 informing assists the other drives in Table II.
- The drive 1 getting can also be assistance for the other drives in Table III.
- The helping drive 4 assists drives of the other people in Table IV.
- The drive 2 determining/controlling assists the other drives in Table V.

TABLE I. EXAMPLES USING THE ASSISTANCE DRIVE 3 (*STRIVING/MOVING*) AND DIFFERENT GOALS

Activity	Goal
Fetch	is for 1 <i>getting</i> =3//Goal 1
Bring about	is for 2 <i>determining/controlling</i> desired state=3//Goal 2
Go	is for 3 <i>striving / moving</i> (to a destination) = 3//Goal 3
Manufacture	is for 4 (work) <i>performing</i> =3//Goal 4
Look something up	is for 5 <i>informing</i> (oneself) = 3//Goal 5

TABLE II. EXAMPLES USING THE ASSISTANCE DRIVE 5 (*INFORMING*) AND DIFFERENT GOALS

Activity	Goal
Inquire supply	is for 1 <i>getting</i> =5//Goal 1
Weigh possibilities	is for 2 <i>determining/controlling</i> desired state=5//Goal 2
Search connection	is for 3 <i>striving / moving</i> (to a destination) = 5//Goal 3
Search customer	is for 4 (work) <i>performing</i> =5//Goal 4
Read, watch, listen	is for 5 <i>informing</i> (oneself) = 5//Goal 5

TABLE III. EXAMPLES USING THE ASSISTANCE DRIVE 1 (*GETTING*) AND DIFFERENT GOALS

Activity	Goal
Get	is for 1 have got = 1//Goal 1
Acquire	is for 2 <i>determining/controlling</i> (having) sth = 1//Goal 2
Buy a ticket	is for 3 <i>striving / moving</i> (to a destination) = 1//Goal 3
Earn	is for 4 (work) <i>performing</i> = 1//Goal 4
Get a message	is for 5 <i>informing</i> (oneself) = 1//Goal 5

TABLE IV. EXAMPLES USING THE ASSISTANCE DRIVE 4 (WORK *PERFORMING*) AND DIFFERENT GOALS

Activity	Goal
Give	is for 1 <i>getting</i> , for the other = 4//Goal 1
Rent out	is for 2 <i>determining/contr.</i> a. desired state of another = 4//Goal 2
Bring sb	is for 3 <i>striving / moving</i> to destination (for another) = 4//Goal 3
Serve	is for 4 (work) <i>performing</i> , service is for another = 4//Goal 4
Report	is for 5 <i>informing others</i> = 4//Goal 5

TABLE V. EXAMPLES USING THE ASSISTANCE DRIVE 2 (*DETERMINING/CONTROLLING*) AND DIFFERENT GOALS

Activity	Goal
Demand sth.	is for 1 <i>getting</i> =2//Goal 1
Determining/contr.	is for 2 <i>determining/control.</i> a. desired state=2//Goal 2
Drive (vehicle)	is for 3 <i>striving/moving</i> (to a destination) = 2//Goal 3
Close a deal	is for 4 (work) <i>performing</i> = 2//Goal 4
Specify	is for 5 <i>informing</i> = 2//Goal 5

Table V uses the assistance drive 2, and the second complements are the *goals*. Many things can be *determined* and *controlled*, but a specific goal constricts the behavior to a specific activity. The goal adjusts the assistance (which contains many possibilities) to one activity.

- To -demand sth.- means to get something by determining/controlling = 2//Goal 1.
- By -determining/controlling-something/someone, a desired state can be achieved (goal drive 2) = 2//Goal 2.
- To -drive-: From the many things that can be at one's disposal (control), there is a special type of thing that is useful for reaching a destination: Vehicles. Driving is only possible by a vehicle. The driver must *control* a vehicle and *determine* it. The car makes the work. But for the classification, the vehicle is not necessary. It is enough determining/controlling (drive 2) something that is usable for goal 3 striving to destination = 2//Goal 3. With the help of the definition of the basic goal, one differentiates the assistance. Activity code reduces activities to handling. Synonymous is -to beam- with the transport device of the spaceship enterprise. It has the same combination: *Controlling* a transport device and *determine* it in order to reach a destination (*striving/moving*). Objects (vehicles, cars, bicycles, spaceships, etc.) are treated separately.
- To -close a deal- means to determine/control (drive 2) a deal by agreement with another who accepts the work performing (drive 4) = 2//Goal 4.
- To -specify- means *determining/controlling* information. (To determine something that affects information.) = 2//Goal 5.

The meaning of a predicate can be indicated by 2 (most more) code numbers. (In the matrix below, the assistances are indicated by the heading of the columns for each position.)

TABLE VI. OVERVIEW BASIC BEHAVIOR ELEMENTS. THE COMBINING OF BASIC BEHAVIOR ELEMENTS WITH THEMSELVES

Assistance: Goal:	1	2	3	4	5
<i>getting</i>	<i>get</i>	<i>demand something</i>	<i>fetch</i>	<i>work perf. (for others)</i>	<i>informing oneself</i>
1 <i>getting</i>	<i>get</i>	<i>demand something</i>	<i>fetch</i>	<i>give</i>	<i>inquire supply</i>
2 <i>determining /controlling something</i>	<i>acquire</i>	<i>determine/ control</i>	<i>bring about</i>	<i>rent out</i>	<i>weigh of possibilities</i>
3 <i>striving /moving to destination</i>	<i>buy a ticket</i>	<i>drive (car)</i>	<i>go</i>	<i>bring somebody there</i>	<i>search for traffic connection</i>
4 (work) <i>performing</i>	<i>earn</i>	<i>close a deal</i>	<i>manu- facture</i>	<i>serve</i>	<i>search for customers</i>
5 <i>informing oneself</i>	<i>get a message</i>	<i>specify</i>	<i>look some- thing up</i>	<i>report</i>	<i>read, watch, listen</i>

*Each of these drives can be combined with each other.* One activity (behavior) represented by a predicate is mostly a combination of several basic drives.

An example of a combination of three drives for one activity is the combination of 'navigate'. (Consulting a map in order to find the right route to a destination by car). This activity consists of three basic drives that are combined with one another.

1. Striving to reach a goal (basic drive 3)
2. Informing (basic drive 5)
3. Reaching a goal (basic drive 3 – final goal)

Striving (3) to gain information (5) that is needed to reach a goal (3). The first drive number stands for the main *assistant*, the second for the second *assistant*, and the last one for the *goal*. Therefore, there are two assistant drives and one goal drive. The code for the drive combination is: 3/5//Goal 3. In this example, the drive numbers 3 and 5 are assistance activities for the goal 3. (No one navigating is aware that one uses 3 times a basic drive.)

*The same drives (1 – 5) can be either assistance or goal or both.* The drives are represented by the *Basic Behavior Elements of an area* – activities that are at the core of a drive and form building blocks. In the cross-point of the three drives lies one activity (behavior).

The activity is defined by the 3 drives. *Therefore, it is not necessary to use many words to describe an activity. The cross-point of the drives makes it. In addition, the defined goal indicates the purpose of an activity.*

The first assistance is striving for reaching a goal. From very many things that can be striven for, only things which give information have been selected. This mechanic constricts a large amount of strivings in one direction. From a lot of information, only those that are useful to find the right way to the destination are selected. Again, this mechanic restricts to a specific direction. At the crossing point is: navigation.

*The basis for drive 3 is the summary of drive-related memories on the topic:* Striving/moving towards a goal/destination. There are two variations: striving for a goal, used for the *assistance* 3, and moving towards a destination, used for the *goal* drive 3.

*In this way, activities (behaviors) are defined without words, only with numbers for identification of the drives. Of course, numbers do not run in the minds of people. The collected memories of drive-related situations run there.*

Each of these drives can be combined with each other, multiple times. If one combines them four times repeatedly in different ways, one gets:  $5 \times 5 \times 5 \times 5 = 625$  variations of human activities (behavior describing predicates). This is the number for only one main area (the material area). This number multiplies with the number of areas.

#### IV. THE AREAS OF LIFE

The brain's ability to control the basic behaviors has been essential to human survival for millions of years and because of the importance, humans have special childhood phases to develop these basic behaviors: The oral, anal, genital, urethral [6], and intentional [7] basic behavior.

*These five basic behaviors are synchronous with the five Basic Behavior Elements described above which are related to survival.*

- The oral phase is about 1 *getting*.
- The anal phase is about 2 *determining/controlling*.
- The genital phase is about 3 *striving/moving* to a goal.
- The urethral phase is about 4 *work-performing*.
- The intentional development is about 5 *informing*.

In order to find the components formed by the basic behavior elements in activities, the following 5 main questions arises:

1. Does an activity involve the agent getting something useful? (Basic Drive 1).
2. Does an activity of an agent involve power or the capability used to determine, control, keep, hold, direct, steer, or operate something or to have something at the disposal? (Basic Drive 2)
3. Does an activity of an agent involve striving or movement to reach (the most diverse) goals? (Basic Drive 3)
4. Does an activity contain that an agent gives something useful or performs a service? (Basic Drive 4)
5. Does an activity contain informing the agent about something? (Basic Drive 5)

The basic behavior elements form the frame for the entire life:

1. From getting milk as a baby to buying food as an adult (drive 1- oral).
2. From self-control to control of one's own possessions. From the use of things at one's disposal to the orders for the employees (drive 2 - anal).
3. From the moving in sexuality to the moving to reach something. From moving with a car to moving a weapon against an enemy (drive 3 - genital).
4. From doing things for mother and father to helping others. From learning at school to working as an employee in a company (drive 4 - urethral).
5. From advantageous knowledge to get things done to curiosity about everything (drive 5 - intentional).

In childhood phases the development of activities can be observed: A baby gets milk from the mother. This is a passive receiving and the pure *getting* of a child (drive 1). As an adult, one goes to a grocery and buys food. In addition, the adult has an assistant drive: paying, that means to have money at the disposal (basic drive 2) and to change it with the food.

This extension of behaviors applies to all 5 basic drives. From the pure drive behavior, it develops into combined behaviors. The other drives (later developed in childhood) are used as assistance. The ratio of pure behavior to combined behavior is about 1 : 100. Because the skills are learned at different stages of childhood and therefore exists separately, there must exist combinations. For example, the baby is not able to use money.

An older child who knows that possession means having control over it (basic drive 2) is then able to exchange money for a desired object. (Assistance 2// for goal 1.)

The basic drives have special shapes to adapt to the different areas of life and are a great advantage for survival

since all drives have the *drive* to fulfill them. The basic drives run through the various areas of human life.

*The transfer of the original drive to the scenery of an area leads to multiple adaptation processes.*

There are main areas (Material, Material/Feelings, Interpersonal, Interpersonal/Feelings, Physical) that include all 5 basics as a goal and there are sub-areas behind a main area especially behind the material area: Authorities, Contracts, Hobby, Leisure Time, Public Utilities, States, etc. And there are sectoral sub-areas that include only one basic as a goal (one sector, instead of all) but all basics as assistances (Animals, Animals/Hobby, Cleanliness, Contest, Criminal/Procurement, Financial/Transactions, Financial/Using, IT, Law, Law/Court, Livelihood, Medical, Producer, Social Institutions, Supplier, Traffic, Protection).

Behaviors have accompanying feelings. There are good, neutral, and bad feelings. When we achieve the fulfillment of drives, we feel good. When we try and do not achieve fulfillment, we feel bad.

If we buy things, we get something (basic drive 1). We can get food (Goal 1). We can get possessions like a house, an apartment, furniture, etc. (Activity 1//Goal 2).

We can get mobilities (Activity 1//Goal 3). We can get recognition (Activity 1//Goal 4). We can get information (Activity 1//Goal 5). Getting something usually makes us feel good. Somebody goes shopping and only the moment of getting something makes us feel good. There are two variations: To get something as assistance 1 and to have got something as goal drive 1.

If we exercise power, it makes us feel good (basic drive 2). Not everyone can stand by it. If we have had bad experiences with it, we could refuse it.

One issue for this is power in politics. Is there any doubt about how good a dictator feels when he exercises his power over an entire country? Or the senior manager of a large company giving orders to many people? There are two variations: The determination/control as assistance 2 and the attainment of a desired state as goal drive 2.

There are different areas that show different views. In the material area, there is the determination of material things. Such as determining the circumstances for the manufacturing goods. In the interpersonal area, there is dominion over people: To command someone like their children or to command other people, as a king or patriarch. And, of course, having power or being in a position of power was an advantage for survival.

When we achieve goals, it makes us feel good. If we strive for something, for example, we bring about something (Activity 3//Goal 2) and it works, it feels good when we reach the goal.

The interpersonal area uses interpersonal relations instead of relationships with material things. Goal 3, to reach a material goal now refers to an interpersonal/sexual goal.

There are two variations: striving for an interpersonal goal, used for assistance 3, and striving towards sexual intercourse, used for goal drive 3. As in every area, all 5 basics are used as assistance. There is no need to mention the importance of sexual feelings and maternal/paternal feelings for reproduction.

The Fight/Aggression area is a sectoral area. In this case, the basic drive 3 is defined as a combat-like goal. As in every case, all 5 basics are used as assistances but always related to only one goal: Goal 3 to win the fight. (In a serious fight there are two other options: Flee or submit. (These follow the survival instinct.)

There are several different fight areas: aggression, brawl, dispute, election, games, hobby, litigation, sports, sports/ball games, stabbing, and war. All of them have the goal 3 to win the fight and are sectoral areas. The difference between ‘to shoot a goal’, in fight/ball games and ‘to shoot an enemy’ in fight/aggression is differentiated by the area and the various terms/situations within an area.

There are further sectoral areas such as Criminal/Procurement directed only for goal 1 *getting*, Financial/Transactions directed only for goal 2 *determining/controlling* money, IT only directed to 5 *informing*, etc. All sectoral areas have only one fixed goal, a goal that actually everyone knows. The code contains it with the goal number.

A social species needs to help each other. Hence, it is useful that we do things for appreciation. Even without pay, we sometimes do things for recognition. Just for the good feeling. There are two variants: Doing something for others as assistance 4 and being appreciated as goal drive 4. In the case of basic drive 4 (good) performance, there are two different lines. In the interpersonal area, the goal is recognition for good performing. In the material area, the goal of (work) performance is money.

One of the most important human inventions is to give money for the exchange of goods and services. Money is material recognition in the material area. The core is to get money for work and money makes businesses run. Work performing is a helping (drive 4), that benefits the other. It is always *dependent on the other* who decides whether or not it will help him/her. This is a reason to make services and goods well to satisfy customers. On the other hand, the customer is dependent on payment and price.

If we submit a paper (Activity 3/5/2// Goal 4) and hope for publication and get confirmation, we feel good. If our mother/father says, “Well done”, we feel good.

When we search for specific information for a long time (Activity 3/2// Goal 5) and find it, we feel good. In regard to informing, there are two variations: The search for specific information as assistance 5 and to satisfy the curiosity as goal drive 5.

These feelings are the driving force for our lives. Feeling good when we achieve goals and feeling bad when we do not. These feelings have been important for millions of years. There are other types of feelings. For example, the feeling of overload. If I must work for money but it is too much effort... That is another issue.

V. CODING OF OBJECTS

Assigning objects is similar to assigning activities. Objects are things, which are useful or necessary to support activities for the drives. For example, a car is a thing object that can be owned (determining/controlling, drive 2). A car is for striving/moving to a destination = drive 3. Therefore, the car is an object 2//for goal 3.

Each object is interlocked with the corresponding basic behavior element. For example,

- 1 *getting* with *source objects* from which one can get sth.
- 2 *determining/controlling* of *thing objects* that can be owned.
- 3 *striving/moving* with *location objects* that can be reached.
- 4 *good performing* with *profession objects*.
- 5 *informing* (oneself) with *information objects*.

Each object number is interlocked with the goal drive number of the basic behavior element (Table VII).

The *goal number* from a *Basic Behavior Element (Old Goal)* of an activity becomes the first number of an *object* (Object No. 1 - 5) (Table VII). This is the ‘goal to assistance regularity of the object’. This first number becomes the *assistance* for the object (followed by a *new goal*, the goal from the object) (Table VIII). The change from the goal of the basic behavior to the goal of the object means a transition from the *old goal (behavior)* to a *new goal (object)*. (Goal transition).

TABLE VII. BASIC BEHAVIOR ELEMENTS IN RELATION TO OBJECTS

Basic Behavior Element ( <i>Old Goal</i> )	Object (Assistance)	<i>New Goal</i>
Getting - goal 1 from	Object 1 Sources	} for a goal
Determining/controlling sth. goal 2 with	Object 2 Things	
Striving/moving to a destination goal 3 to	Object 3 Locations	
Performing (good work) goal 4 with	Object 4 Professions	
Informing (oneself) - goal 5 -about	Object 5 Information	

TABLE VIII. COMBINING OF OBJECTS

Object	has the	<i>Assistance drive</i> for a <i>New Goal</i>
Groceries, shops are	1 sources	} for 1 getting
Food, goods, etc. are	2 things	
Addresses of shops are	3 locations	
Farmer, seller, etc. are	4 professions	
Supply details are	5 information	
Apartment rental, furniture shops, are	1 sources	} for 2 determining/ controlling sth. (having)
House, apartment, furniture, etc. are	2 things	
Home, location of a property is a	3 location	
Property management, lessors, etc. are	4 professions	
Building details are	5 information	
Travel agencies, transport services are	1 sources	} for 3 moving (to a destination)
Vehicles are	2 things	
Train stations, bus stops, etc. are	3 locations	
Bus drivers, travel agents, etc. are	4 professions	
Route details are	5 information	
Demand for goods is a	1 source	} for 4 performing (work)
Equipment for work is a	2 thing	
<i>Workplace*</i> is a	3 location	
Vocational teacher is a	4 profession	
Work details are	5 information	
TV, internet, etc. is a	1 source	} for 5 informing (oneself)
Newspapers, journals, DVDs, etc. are	2 things	
Information events, theater, etc. are	3 locations	
Reporter; actor, IT, etc. are	4 professions	
Search engines, lexicons are	5 information	

\* An example of assigning drive code numbers (Table VIII) for Workplace (location object) with:

*Assistance 3// Goal 4 or identical: Object 3// Goal 4.*

Just as the combining of Basic Behavior Elements, objects are combinable too. The first number (the object number) is the assistance, the second number is again a goal. In the next step, drive 4 is used as assistance and there is a transition to the goal of the work performing for example farming, selling: goal 1, property management: goal 2, bus driving: goal 3, vocational teaching: goal 4, reporting: goal 5 ('goal transition').

Each of the five objects can, again and again, be divided by the 5 basic drives for the goals. Again, with a higher number of elements, there are a more numerous, number of objects. Further differentiation depends on the area and the special direction. Up to 9 elements are known for one object. The basic drives can be seen in all these objects and there are many more objects with a higher number of elements of the combinations in the different areas.

The drive number of an object becomes the assistance number for a new goal, the goal of the object (Table VII).

#### A. Oral field

In the oral phase, the baby receives milk from the mother. This is the core of *basic drive 1*. The mother is the *source object* for the milk. Later as an adult, there are different *source objects* from which one can get something for:

- Drive 1 food: Groceries. They are the combination of *source objects 1 = assistance 1* for goal drive 1.
- Drive 2 possession: Apartment rental, furniture shops. They are the combination of *source objects 1 = assistance 1* for goal drive 2.
- Drive 3 destinations: Travel agencies, transport services. They are the combination of *source objects 1 = assistance 1* for goal drive 3.
- Drive 4 work: Goods demand. They are the combination of *source objects 1 = assistance 1* for goal drive 4.
- Drive 5 information: TV, internet, etc. They are the combination of *source objects 1 = assistance 1* for goal drive 5.

In short: Groceries, apartment rental, travel agencies, transport services, goods demand, TV, internet are the *source objects (objects 1 = assistances 1)* for the goal drives: 1, 2, 3, 4, 5 in all variations of the different areas of life.

#### B. Anal field

Things are *objects* for *basic drive 2*. They are usable for *basic drive 2* because someone can own and 2 *determine/control* them. They are in the power field of someone.

- Things for the oral drive are food. They are the combination of *thing objects 2 = assistance 2* with goal drive 1 *getting*.
- Main thing objects are my house/apartment, furniture, and everything in my house. In my house, I can determine and decide most because it is mine. (Another important thing object is money.

I can *determine* and *control* it and decide about its use.) They are the combination of *thing objects 2 = assistance 2* with goal drive 2 *determining/controlling*.

- Things for my mobility: My car, my bike, my ticket for the train. They are the combination of *thing objects 2 = assistance 2* with goal drive 3 *striving/moving* to a destination.
- Things for my work. Work equipments are objects for drive 4 *work-performing*. They are the combination of *thing objects 2 = assistance 2* with goal drive 4 *work performing*.
- Things for my information. Newspapers, journals, DVDs, etc. They are the combination of *thing objects 2 = assistance 2* with goal drive 5 *informing oneself*.

In short: In the anal field, I can have *thing objects (objects 2 = assistance 2)* for:

- Goal drive 1 (food)
- Goal drive 2 (possession)
- Goal drive 3 (vehicles)
- Goal drive 4 (equipment for work)
- Goal drive 5 (newspapers).

(The things include not only the 5 basic drives in the material area, but also all variations of the different areas of life.)

#### C. Genital field

Destinations are *location objects* (assistance 3) for the *basic drive 3*. In this genital field, I can reach destinations by 3 *striving/ moving* to a destination. They are the combination of *location objects (objects 3 = assistance 3)* with goal drive: 1, 2, 3, 4, 5, and locations in all variations of the different areas of life.

#### D. Urethral field

Professions are *profession objects* (assistance 4) in the urethral field. I can learn 4 *professional work*. It is the combination of *profession objects (objects 4 = assistance 4)* with goal drive 1, 2, 3, 4, 5, and professions in all variations of the different areas of life.

#### E. Intentional field

Information is an object in the intentional field. It is the combination of 5 *information objects (object 5 = assistance 5)* about everything in the world and about goal drive 1, 2, 3, 4, 5 in all variations of the different areas of life.

#### F. Summary

Drives revolve around drives and generate a wide variety of behaviors and all of which serve a (drive) goal. This knowledge results from the drive-related analysis of human behavior. It turned out that only 5 basic drives are necessary for this breakdown into basic elements. This method is applied to thousands of predicates and objects and found that these consist of drive elements.

For example, one can use the computer (5) to find out where best to get (1) a car (3) that is suitable for driving to work (4). If one goes through the sentence step by step, one will find that this is exactly the way people think. In this case, one needs a car mainly for going to work.

In the mind, one has an idea of the work, and that one is paid for it (basic drive 4). The whole work complex is connected, among other things, with the place where one work, the target object, where one has to go, and what one need a car for (basic drive 3). One wants to get it (basic drive 1), and for that, one need information on the question: Where? In the information that one can obtain from the computer/internet (basic drive 5).

Human behaviors consist of drive activities and relate to drive objects. The diversity of human behavior is based on the combination of a few basic drives. Each drive comprises several variations which depend on the current area of life. In many areas of life, there is a special variation of a basic drive. The result is a high diversity of human behavior with mainly only 5 basic drives.

VI. THE CONCATENATING OF OBJECTS IN THE MATERIAL AREA

In section V, subsection B, we have *thing objects 2. They are things that can be owned by someone.* The basic possessions are shown in Table IX. There are things for the goal drives 1, 2, 3, 4, 5 in the rows 1, 2, 3, 4, 5.

The owned house or apartment with Code: Object 2//Goal 2//2/ defines the stationary immobile core of possession (Goal drive 2). One can use it, one can change details within, one can sell it. One has it at one’s disposal. It is the *core* Object of drive 2 *determining/controlling* something.

Further in the columns: The portable possessions can be moved -drive 3. Value-based ownership is limited by other people's conditions - drive 4.

Table IX to Table XII are building a chain that leads deeper in the matter of house and apartment. Within the framework of drives, the content is defined by area and the chain of the diverse Basic Behavior Elements.

*The arrows between the tables show the chained connection between them. One position forms the connection point for the next one, as shown in Figures 1.*

See Table IX, the heading Object 2// (possession) plus label of the row Goal 2 (*determining/controlling*) plus heading of the column (*Drive 2*) is superordinate for Table X. ‘House; apartment’

TABLE IX. SUPER ORDINATE: POSSESSION: OBJECT 2//

Assistant Drive: For Goal:	Drive 2 <i>determining</i>	Drive 3 <i>striv./moving</i>	Drive 4 work performing
Oral drive 1 <i>getting</i>	food, consumables	dine, beverages	
Anal Drive 2 <i>determining/controlling</i>	house, apartment	portable possession	money, bank balances, shares
Genital Drive 3 <i>striving/moving</i>	gasoline	vehicles	tickets
Urethral 4 <i>work-performing</i>	contracts, design drawings	equipment for work	work performance
Intentional 5 <i>informing</i>	home page		

TABLE X. HOUSE, APARTMENT, OBJECT 2// GOAL 2// 2 /

Sub-assistant Drive: Assistant drive:	Drive 2 <i>determining</i>	Drive 3 <i>striving/moving</i>	Drive 4 work performing
Oral drive 1 <i>getting</i>	hire	<i>moving in</i>	house buying
Anal Drive 2 <i>determining/controlling</i>	room type	equipment of apartment	ownership costs; rent
Genital Drive 3 <i>striving/moving</i>	contract rules		financing
Urethral Drive 4 <i>work-performing</i>	rentals	repair, renovation, cleaning, craft	acceptance of price, of rent
Intentional Drive 5 <i>informing</i>	real estate knowledge	knowledge of building problems	house, apartment price adequacy

The entire matrix of Table X includes the code above of house/apartment, as seen in the heading. This matrix shows connected *thing objects*:

- Line 1 shows how to get a house/apartment,
- Line 2 shows details,
- Line 3 shows elements of managing,
- Line 4 shows professional help, and
- Line 5 contains information about a house.

This matrix is convergent, every position has the same goal (Goal 2), the rows are *assistances*. The columns are sub-assistances. (In contrast, the other matrices are divergent and show the 5 basic drives as *goals* with the 5 rows.)

Row assistant drive 2 and column sub-assistant drive 3 means ‘equipment of apartment’. It includes the above heading and the beginning of the chain.

In Table XI (equipment of apartment) is row goal 4 electrical work, instead of 4 work-performing which is on the same drive position. A monetary payment may be made for work performance. Money is converted work performance. Electrical equipment runs only against payment for electricity. This monetary payment is converted work performance. (Alternative: Area electrical power.)

The assistant drive is drive 3. The crossing point position means ‘electrical appliances’. It is again the heading for the next matrix (Table XII) and is extended twice again.

TABLE XI. EQUIPMENT OF APARTMENT: OBJECT 2// GOAL 2// 2 /2 /3 //

Assistant Drive: For Goal:	Drive 2 <i>determining</i>	Drive 3 <i>striving/moving</i>	Drive 5 informing (self)
Oral drive 1 <i>getting</i>		crockery pans cutlery, pots,	
Anal Drive 2 <i>determining/controlling</i>		furniture	
Genital Drive 3 <i>striving/moving</i>			
Urethral Drive 4 <i>electrical work</i>		electrical appliances	
Intentional Drive 5 <i>informing</i>	nameplate, address	phone/internet connection	lighting



TABLE XII. ELECTRICAL APPLIANCES:  
OBJECT 2// GOAL 2// 2// 2// 3// GOAL 4 //3//

Assistant Drive: For Goal:	Drive 2 <i>determining</i>	Drive 3 <i>striving/moving</i>	Drive 5 informing (self)
Oral drive 1 <i>getting</i>	refrigerator	stove, oven, microwave	
Anal Drive 2 <i>determining/controlling</i>			
Genital Drive 3 <i>striving/moving</i>	washing machine		
Urethral Drive 4 <i>work-performing</i>			
Intentional Drive 5 <i>informing</i>	computer	phone	TV, streaming service

Table XII shows the final code. The refrigerator offers oral things: Drive 1 *getting* with core eating for the goal and column drive 2 for assistance. The assist drive 2 means: determine/control (have available) with the refrigerator that keeps food fresh with electricity and thus helps to keep it in usable control. That is the last extension of the chain.

The closer to the core of a drive, the shorter the code. The further away from the core, the longer the code with more added drives.

Coding for refrigerator:

Object 2 //Goal 2 // 2// 2// 3// Goal 4 //3// Goal 1 //2

The concatenated matrices (tables) show with four levels: Refrigerator. The matrices add new drive elements with each step in every new combination. But they are always only one of the 5 basic drives. (Figure 1). The combinations form a chain that targets a final target drive.

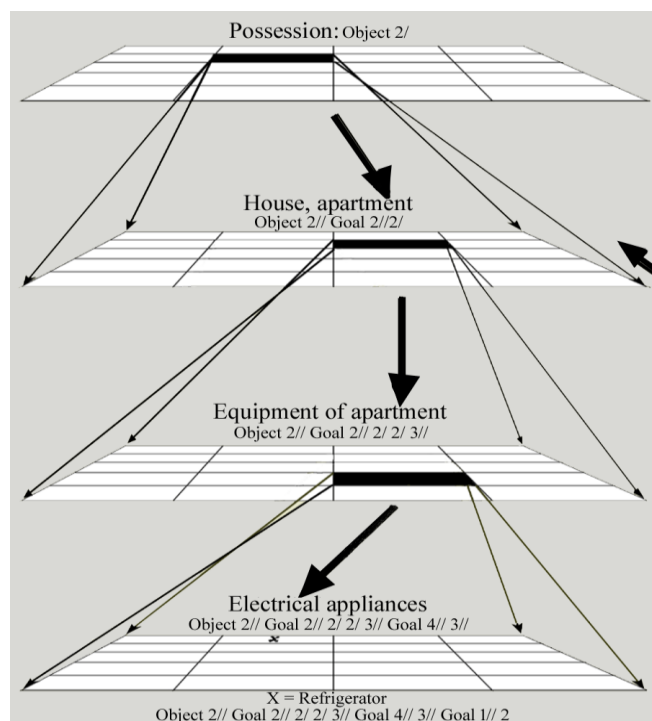


Figure 1. Concatenating of the matrices in four levels

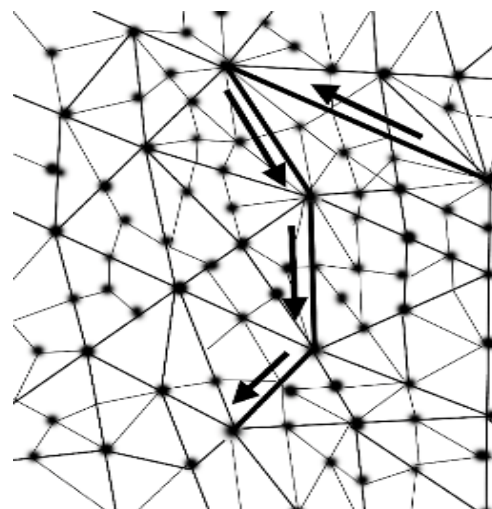


Figure 2. Concatenating of neurons

By reducing the matrices so that a matrix appears as a node and only the three-dimensional network can be seen, the result is an image that is similar, to the arrangement of neurons in the brain. (Figure 2). One matrix position (object) forms the connection point like synapses. They give the superordinate content during the next step and the next node adds more differentiating details.

The thought suggests itself that it runs in the brain in principle in the same way. The steps in the brain are certainly smaller and more numerous than in this example. The drive activities and objects described, which relate to the basic drives number 1 to 5, are used by humans to define activities and concepts in the mind. The drives are the key elements in which people think. Such a connection between drive related basic behavior elements and drive objects has not yet been explored [8].

The 5 basic drives are dimensions like the dimensions in space. The areas are sub-ordinate. The transfer of the original drive to the scenery of an area leads to multiple adaptation processes. By transferring drive combinations from one area to another, there is also likely the possibility of problem-solving by association.

The 5 basic drives are available in many variations in 100 known different areas of life (probably much more), resulting in many thousands of variations with combinations that exist in each of the areas of life. Basic drives are either used in actions such as shopping, giving directions, walking or driving, working, or looking for information (examples from the material area). Or these activities are imagined in the head. Brief pictorial or word-related representations run through the mind. Each base drive contains many memories. Starting with childhood, where the drive arises. Basic drives continue to be fixed points in life. For a drive, experience is repeatedly gained with their execution, they form a complex, a whole scenery including the numerous variations in the different areas of life.

*Basic drives must be present in the brain in some way since they have made human survival possible from the evolutionary perspective.*

From an evolutionary perspective, behavior is the old foundation. Language and thinking in language came later. Both are built on the old behavioral foundations, and it is plausible that behavior and thought were originally synchronous. Also, along the lines of: think first, then act.

This model shown here is not taxonomic. It is an ontology with 5 elements of relations that also still adapt themselves according to the area of life and which are combined with each other. Together, this results in a very complex ontology. Through ever greater differentiation, ever new branches are formed, with the consequence that the number of resulting objects increases exponentially:

First level (Table IX) contains 12 objects.

Second level (Table X) contains 14 objects.

Third level (Table XI) contains 6 objects.

Fourth level (Table XII) contains 6 objects.

*This results in  $12 \times 14 \times 6 \times 6 = 6048$  possible objects assuming that there is a comparable number of objects in neighboring levels.* According to this model, a very complex structure is formed from only 5 basic drives.

In early childhood, the drive regions are only present in primitive structures. Through physical development and experiences with the use of drives, an enormous complex of drive-related memories develops.

This model assumes that the drives form the frames in which the complexity develops. Drive satisfactions that lie in the environment must form an incentive for an individual. This stimulus must arrive in the brain and trigger reactions. Nothing is more probable than that this happens with the drive apparatus. Only this guarantees survival. The drive apparatus receives restrictions from the social community during development. Social morality limits the drive apparatus. (This conglomerate of drive living and restriction often blurs the understanding of the drive origin.)

Further differentiation of the branches increases the number of objects in this model enormously. It fits the exponential increase of knowledge in the brain.

Unlike a normal network that only shows the connections of the objects, here the drive root of each element is tracked. Thus, each element gets a meaning and the total meaning of an object is the sum of the individual meanings of the elements. *This circumstance also explains the depth of knowledge penetration of the human mind, which is far superior to the understanding of computer derivations.*

The above example refrigerator shows this knowledge penetration with 4 drive levels: Of all the things that are in my possession or at my disposal (drive 2), I think of my house/apartment as the core (Goal 2//2). I think of the movable equipment of the apartment (Drive 2/3).

Part of this is electrical appliances that accomplish a service by moving something with an electric motor (Goal 4//3). This includes a refrigerator that keeps food fresh (Goal 1//2). The human mind knows each drive level of an object and the sum of them.

## VII. METHODS OF THIS WORK

All conclusions of this work are logically derived. They contradict current research methods, where evidence is required for everything. Evidence that behaviors in fact consist of combinations (for example, that fetch consists of move and get) cannot be shown statistically or by interviewing people. A proof of the combination system is possible with logic. It is shown that there are combinations of behavior elements. Since the brain controls all behavior, the brain also controls the combination.

The proof that the basic drives are really the building blocks of behavior is done backwards by noting that so many important predicates (and hence the corresponding behaviors) can be broken down into these basic drive elements.

So far, seven thousand drive-related behaviors and objects are known. 500 categorized important predicates/behaviors can be viewed on our homepage [10].

Some basic parts of this model can be considered as secured by the following facts:

It has been known since the middle of the last century that basic drives exist. Psychologists found the connection between childhood phases and basic drives. For example, Erik Erikson [6] wrote about 4 basic drives (oral, anal, genital, urethral) that develop in the first childhood stages. Schultz-Hencke [7] also wrote about these and about an intentional development in childhood in which information leads to intention.

That the basic drives exist in the brain and not, for example, in the stomach can be considered certain. It is not necessary to prove whether basic drives are localized in the brain. Proving whether basic drives can be detected in an fMRI study or in EEG signals is not crucial, because the drives must exist in the brain.

The question of whether there are only 5 basic drives or more has not been definitively established. This model is based on the basic childhood stages and the behavior necessary for survival. Both lead to the same basics.

The logic of the general combinations is compelling:

- I use getting (drive 1) to get something from sources (for example, stores that offer things for drive 1, 2, 3, 4, or 5).
- I have things at my disposal (drive 2) that are usable for drive 1, 2, 3, 4, 5.
- I strive/move for goals (drive 3) for drive 1, 2, 3, 4, 5.
- I perform work services (drive 4) for drive 1, 2, 3, 4, 5 of the other people.
- I inform myself (drive 5) for drive 1, 2, 3, 4, 5.

The rule is: a basic behavior element refers to a basic object. Basic behavior elements and basic objects refer to basic drives.

*Instead of a proof about the combination of elements within an activity or object, anyone can figure out the basic behavioral elements of a predicate/behavior or object by answering the following main questions:*

- Does a behavior of an agent involve striving or movement to reach (the most diverse) goals? (Basic Drive 3)
- Does a behavior of an agent involve power or the capability used to determine, control, keep, hold, direct, steer, or operate something or to have something at the disposal? (Basic Drive 2)
- Does a behavior involve the agent getting something useful? (Basic Drive 1).
- Does a behavior contain that an agent gives something useful or performs a service? (Basic Drive 4)
- Does a behavior contain informing the agent about something? (Basic Drive 5)

Finding combinations in the brain by measurements with fMRI or EEG is very difficult because the combinations consist of 2, most more drive elements and forms a complex mixture in the mind just for one thought.

There are other useful elements for further differentiation of behaviors and combinations (autonomous, heteronomous, eccentric, concentric). However, this introductory work is limited to elements that are essential for survival.

### VIII. CONCLUSION

An important task of brain research is to bridge the gap between psychology and the electrical functionality of neurons. How does (drive-related) thinking arise from the firing of neurons?

The present model is a step in this direction to narrow the gap by decomposing psychology into (small) elements (modules) that come somewhat closer to the smallest element of switching a bit in the neuron. The goal is to shrink the psychological elements until they reach the size of a switching neuron.

Another way would be to find the anchoring of basic drive elements in the brain architecture. Of course, this anchoring is not easy to recognize. This model suggests that individual neurons that are relatively close to each other are anchored in different basic drives. Just the mixture results in the content of objects and activities by the combinations.

An MRI study is not able to show single neurons. Only regions with large amounts of neurons can be identified. To find the anchoring of the drives in the neurons, new ways must be found.

Focusing on the human brain, this work makes some concluding considerations:

- It is unthinkable that the human basic drives (that made human survival possible and still make it possible today) are not represented in the mind. The basic drives must be contained in our brains.
- Humans are able to imagine processes of behavior, which are used to fulfill basic drives. This imagination of the process is a thought. Thoughts are organized through long chains of combinations that are bundled together by a drive goal theme. A thought begins with a pulse from inside the body or a stimulus from outside, that touches one of the basic drives

A reaction can be an activity aimed at achieving a goal/meeting a need or at least a thought about it. Additional combinations with assistance drives extend the thought.

- The content of the thought is to follow the chain of drives through Basic Behavior Elements that are variations of basic drives. The combinations give the content of the thought.
- Human thinking deals mainly with drive-important behaviors and drive-important occurrences and processes.
- It is plausible that with increasing depth of the levels a complex mixture of assistance drives, which are necessary for the desired goal, is fed into the human activity process. The feed takes place through the added combinations with assistance drives.
- These assistance drives are behaviors (often conditionally learned details of the activities) that have developed in a different drive field but are useful and necessary help to achieve the current goal.
- Because these basic behaviors exist there must be a control of the behaviors by the brain.
- Because the basics develop in different childhood phases and *therefore exist separately, there must exist combinations*. The combinations are represented in the brain by pictures or words.
- The combination of the basic drives provides 'background knowledge' that all people have in the back of their minds regarding their activities, as each combination contains the purpose (goal) of a behavior or object and the means/methods (assistances by other drives) used.

When viewed in a microscope, the basic drive anchoring of the individual neurons cannot be seen. One can only see the highly complex network of branches between the neurons.

The drives are the 'ghost in the machine' to use that old phrase, in the human brain. Human emotions echo the degree that drives are satisfied under specific, acute conditions. Each finely differentiated action (and any conversation about it) is based on a complex mixture of basic drives, such that one can hardly see their base, because it has so many levels, in ever-changing mixtures. Behind every action (or even part of an action) are specifically differentiated aspects of human drives.

Learning is not the learning of anything. The learning of behaviors has the task of serving the fulfillment of drives. The behaviors are supported by the means of pattern recognition [9] and conditional learning.

Language also serves to fulfill drives. Language is used to get recognition for social behavior or good performance (drive 4) or for the different variations of all drives in 100 areas of life, which are carried out alone or often in cooperation with others.

*The fulfillment of the drives give the sense of human behavior.* Most human behaviors are combinations of human drives. The numbering of these combinations can be viewed as a kind of genetic code for behavior and thinking.

REFERENCES

- [1] F. Rössler, „Psychophysiology of Cognition: An Introduction to Cognitive Neuroscience.“, Spektrum Akademischer Verlag, 2011.
- [2] U. Hasson, A.A. Ghazanfar, B. Galantucci, S. Garrod, and C. Keysers, „Brain-to-brain coupling: mechanism for creating and sharing a social world“. *Trends in Cognitive Science* 16(2), USA, 2012, pp 114-121.
- [3] C. J. Fillmore, C. F. Baker, and F. Collin, “Frame semantics for text understanding”. Proceedings of WordNet and Other Lexical Resources, Pittsburgh, USA: NAACL. 2001.
- [4] J. J. Katz and J. A. Fodor, “The structure of a Semantic Theory”, *Language*, Vol. 39, No. 2. (Apr. – Jun.), 1963, pp. 170-210,
- [5] P. H. Pfeifer, J. Pfeifer, and N. Pfeifer, “To Grasp the Meaning of Natural Language by a Code of Behaviors” the Sense Machine: *IJKE* 2016 Vol.2(1), 1–3.
- [6] Erikson, E., *Childhood and Society*, W. W. Norton & Co, New York 1950, pp. 70, 76, 80-86, 253.
- [7] Schultz-Hencke, H., *Textbook of Analytical Psychotherapy*, Thieme Verlag, Stuttgart 1951, pp. 24-25.
- [8] V. Schuring, „Selected biological foundations of critical psychology (I)“: *Forum Kritische Psychologie* 55, 2016, pp 117-123.
- [9] R. Kurzweil, “How to create a mind: the secret of human thought revealed”, Viking, Penguin Group, USA, 2012.
- [10] P. H. Pfeifer, <http://www.sense-machine.com/Gitter.html> [retrieved: 5, 2023]