**UNIT 3: THOUGHT PROCESSES**

**INTRODUCTION**

Welcome to unit 3 of thought processes. The unit will start by giving definition of thought then proceed to discuss other relevant sections of the subject. The unit is divided into three sections as follows?

**Section 1**: Etymology or Historical Account on the word thought

**Section 2:** Theories and Philosophy of the word thought

**Section 3**: Bio-psychosocial and Psycho-analysis of thought

**Unit Objectives**

by the end of this unit, you should be able to

1. Give historical account of the word thought
2. Discuss theories of thought and thought process
3. Discuss about psychosocial and pyschoanalysis

**SECTION ONE: ETYMOLOGY OR HISTORICAL ACCOUNT**

* 1. Section Outline
	2. Section Introduction.
	3. Section Objectives.
	4. Definition of Thought
	5. Content
	6. Section Summary
	7. **SECTION INTRODUCTION**

The word **Thought** is related to the word **thinking** and thinking involves mentally manipulating information, as when we form concepts, solve problems, reason and make decisions. We begin our tour of thought by looking at the origins of thought.

  **1.2 SECTION OBJECTIVES**

By the end of this section you should be able to:

1. Give a chronological account of the birth of the word thought
2. Discuss the origins of thought definitions
	1. **SECTION DEFINITION**

Thought can refer to the ideas or arrangements of ideas that result from thinking, the act of producing thoughts, or the process of producing thoughts. Despite the fact that thought is a fundamental human activity familiar to everyone, there is no generally accepted agreement as to what thought is or how it is created. Thoughts are the result or product of spontaneous acts of thinking. Thinking allows humans to make sense of, interpret, represent or [model](http://en.wikipedia.org/wiki/Conceptual_model) the world they experience, and to make predictions about that world. It is therefore helpful to an organism with needs, objectives, and desires as it makes [plans](http://en.wikipedia.org/wiki/Plans) or otherwise attempts to accomplish those goals. Thoughts are the keys which determine one's goal.

**1.4 SECTION CONTENT**

Etymology Or Historical Account

The word *thought* comes from [Old English](http://en.wikipedia.org/wiki/Old_English) *þoht*, or *geþoht*, from stem of *þencan* "to conceive of in the mind, consider".

The word “thought” may mean

* a single product of thinking or a single idea (“My first thought was ‘no.’”)
* The product of mental activity (“Mathematics is a large body of thought.”)
* The act or process of thinking (“I was frazzled from too much thought.”)
* The capacity to think, reason, imagines, etcetera (“All her thought was applied to her work.”)
* The consideration of or reflection on an idea (“The thought of death terrifies me.”)
* Recollection or contemplation (“I thought about my childhood.”)
* Half-formed or imperfect intention (“I had some thought of going.”)
* Anticipation or expectation (“She had no thought of seeing him again.”)
* Consideration, attention, care, or regard (“He took no thought of his appearance” and "I did it without thinking.")

Definitions may or may not require that thought

* take place within a human brain (see [anthropomorphism](http://en.wikipedia.org/wiki/Anthropomorphism)),
* take place as part of a living biological system (see [Alan Turing](http://en.wikipedia.org/wiki/Alan_Turing) and [Computing Machinery and Intelligence](http://en.wikipedia.org/wiki/Computing_Machinery_and_Intelligence)),
* take place only at a conscious level of awareness (see [Unconscious Thought Theory](http://en.wikipedia.org/wiki/Unconscious_Thought_Theory)),
* require language,
* is principally or even only conceptual, abstract ("formal"),
* involve other concepts such as drawing analogies, interpreting, evaluating, imagining, planning, and remembering.
involve other concepts such as drawing analogies, interpreting, evaluating, imagining, planning, and remembering.

Definitions of thought may also be derived directly or indirectly from theories of thought.

Thought (and thinking) – the mental process in which beings form psychological associations and models of the world. Thinking is manipulating information, as when we form concepts, engage in problem solving, reason and make decisions. A thought may be an idea, an image, a sound or even an emotional feeling that arises from the brain.



* 1. **SECTION SUMMARY**

Thought underlies many human actions and interactions, understanding its physical and metaphysical origins, processes, and effects has been a longstanding goal of many academic disciplines including artificial intelligence, biology, philosophy, psychology and sociology.

**SECTION TWO: THEORIES OF THOUGHT**

2.0 Section Outline

2.1 Section Introduction

2.2 Section Objectives

2.3 Contents of the subject

2.4 Section Summary

2.1 **SECTION INTRODUCTION**

Welcome to section two of unit 3. Regardless of the kind of thinking we engage in, our thinking is fuelled by concepts which are mental categories used to group objects, events and characteristics. In this section we will look into Williams’s taxonomy’s hierarchical arrangement of thinking skills.

**2.2** **SECTION OBJECTIVES**

By the end of this section you should be able to

* 1. Give an outline of theories of thought
	2. Give purpose of thinking processes.
	3. **CONTENT**

Thinking processes(theory of constraints) are one of the 5 methods to enable the focused improvements of any system especially(business system)

The purpose of thinking processes is to help answer questions essential to achieving focused improvement e.g. What to change, What to change it into, How to cause the change and Why change.

There other theories namely:

* “Outline of a theory of thought-processes and thinking machines”– thought processes and mental phenomena modeled by sets of mathematical equations
* Surfaces and Essences: Analogy as the Fuel and Fire of Thinking– a theory built on analogies
* The Neural Theory of Language and Thought– neural modeling of language and spatial relations
* Thought Forms—The Structure, Power, and Limitations of Thought - a theory built on mental models
* [Unconscious Thought Theory](http://en.wikipedia.org/wiki/Unconscious_Thought_Theory)– thought that is not conscious
* [Linguistics](http://en.wikipedia.org/wiki/Linguistics) theories - The Stuff of Though– A linguistic and cognitive theory that thought is based on syntactic and linguistic recursion processes

**SECTION 2.4 SECTION SUMMARY**

****We have a special ability for creating categories to help us make sense of information in our world. We know that apples and oranges and fruits, but they have different tastes and colours.

**SECTION THREE: BIO-PSYCHOSOCIAL AND PSYCHOANALYSIS OF THOUGHT**

3.0 Section Outline

3.1 Section Introduction

3.2 Section Objectives

3.3 Contents of the subject

3.4 Section Summary

**3.1 SECTION INTRODUCTION**

Welcome to section three of unit three. It will focus on biology, philosophy, psychology and sociology of thought

**3.2 SECTION OF OBJECTIVES**

By the end of this section one will be able to:

1. Describe mind body issues of thinking,
2. Describe the biological, psychological, philosophical, and sociological issues of thought.
	1. **SECTION CONTENTS**
		1. ***PHILOSOPHICAL***
		What is most thought-provoking in these thought-provoking times, is that we are still not thinking.

The phenomenology movement in philosophy saw a radical change in the way in which we understand thought. Martin Heidegger's phenomenological analyses of the existential structure of man in Being And Timecast new light on the issue of thinking, unsettling traditional cognitive or rational interpretations of man which affect the way we understand thought. The notion of the fundamental role of non-cognitive understanding in rendering possible thematic consciousness informed the discussion surrounding Artificial Intelligence during the 1970s and 1980s.

Phenomenology, however, is not the only approach to thinking in modern Western philosophy. Philosophy of mind is a branch of philosophy that studies the nature of the mind mental events, mental functions, mental properties, consciousness and their relationship to the physical body, particularly the brain. The mind-body problem, i.e. the relationship of the mind to the body, is commonly seen as the central issue in philosophy of mind, although there are other issues concerning the nature of the mind that do not involve its relation to the physical body.

**The mind-body problem**

The mind-body problem concerns the explanation of the relationship that exists between minds, or mental processes, and bodily states or processes. The main aim of philosophers working in this area is to determine the nature of the mind and mental states/processes, and how—or even if—minds are affected by and can affect the body.

Human perceptual experiences depend on stimuli which arrive at one's various sensory organs from the external world and these stimuli cause changes in one's mental state, ultimately causing one to feel a sensation, which may be pleasant or unpleasant. Someone's desire for a slice of pizza, for example, will tend to cause that person to move his or her body in a specific manner and in a specific direction to obtain what he or she wants. The question, then, is how it can be possible for conscious experiences to arise out of a lump of gray matter endowed with nothing but electrochemical properties. A related problem is to explain how someone's propositional attitudes (e.g. beliefs and desires) can cause that individual's neurons to fire and his muscles to contract in exactly the correct manner. These comprise some of the puzzles that have confronted epistemologists and philosophers of mind from at least the time of René Descartes

**Functionalism vs. embodiment**

The above reflects a classical, functional description of how we work as cognitive, thinking systems. However the apparently irresolvable mind-body problem is said to be overcome, and bypassed, by the [Embodied cognition](http://en.wikipedia.org/wiki/Embodied_cognition) approach, with its roots in the work of [Heidegger](http://en.wikipedia.org/wiki/Heidegger), [Piaget](http://en.wikipedia.org/wiki/Jean_Piaget), [Vygotsky](http://en.wikipedia.org/wiki/Vygotsky%22%20%5Co%20%22Vygotsky), [Merleau-Ponty](http://en.wikipedia.org/wiki/Merleau-Ponty%22%20%5Co%20%22Merleau-Ponty) and the pragmatist [John Dewey](http://en.wikipedia.org/wiki/John_Dewey).

This approach states that the classical approach of separating the mind and analyzing its processes is misguided: instead, we should see that the mind, actions of an embodied agent, and the environment it perceives and envisions, are all parts of a whole which determine each other. Therefore functional analysis of the mind alone will always leave us with the mind-body problem which cannot be solved.

**3.3.2 *BIOLOGY***

A neuron (also known as a neuron or nerve cell) is an excitable [cell](http://en.wikipedia.org/wiki/Cell_%28biology%29) in the [nervous system](http://en.wikipedia.org/wiki/Nervous_system) that processes and transmits information by electrochemical [signaling](http://en.wikipedia.org/wiki/Signal_%28biology%29). Neurons are the core components of the [brain](http://en.wikipedia.org/wiki/Human_brain), the [vertebrate](http://en.wikipedia.org/wiki/Vertebrate) [spinal cord](http://en.wikipedia.org/wiki/Spinal_cord), the [invertebrate](http://en.wikipedia.org/wiki/Invertebrate) [ventral nerve cord](http://en.wikipedia.org/wiki/Ventral_nerve_cord), and the peripheral nerves. A number of specialized types of neurons exist: sensory neurons respond to touch, sound, light and numerous other stimuli affecting cells of the sensory organs that then send signals to the spinal cord and brain. Motor neurons receive signals from the brain and spinal cord and cause muscle contractions and affect glands Interneurons connect neurons to other neurons within the brain and spinal cord. Neurons respond to stimuli and communicate the presence of stimuli to the central nervous system, which processes that information and sends responses to other parts of the body for action. Neurons do not go through mitosis and usually cannot be replaced after being destroyed, although astorcytes have been observed to turn into neurons as they are sometimes pluripotent

**3.3.3 *PSYCHOLOGY***

Psychologists have concentrated on thinking as an intellectual exertion aimed at finding an answer to a question or the solution of a practical problem. Cognitive psychology is a branch of psychology that investigates internal mental processes such as problem solving, memory, and language. The school of thought arising from this approach is known as cognitivism which is interested in how people mentally represent information processing. It had its foundations in the **Gestalt Psychology of Max Wertheimer,** **Wolfgang kohler**, and Kurt koffka, and in the work of [Jean Piaget](http://en.wikipedia.org/wiki/Jean_Piaget)**,** who provided a theory of stages/phases that describe children's cognitive development.

Cognitive psychologists use psychophysical and experimental approaches to understand, diagnose, and solve problems, concerning themselves with the mental processes which mediate between stimulus and response. They study various aspects of thinking, including the psychology of reasoning, and how people make decisions and choices, solve problems, as well as engage in creative discovery and imaginative thought. Cognitive theory contends that solutions to problems take the form of algorithms—rules that are not necessarily understood but promise a solution, or heuristics—rules that are understood but that do not always guarantee solutions Cognitive Science differs from cognitive psychology in that algorithms that are intended to simulate human behavior are implemented or implementable on a computer. In other instances, solutions may be found through insight, a sudden awareness of relationships.

In developmental psychologyJean Piaget was a pioneer in the study of the development of thought from birth to maturity. In his theory of cognitive development, thought is based on actions on the environment. That is, Piaget suggests that the environment is understood through assimilations of objects in the available schemes of action and these accommodate to the objects to the extent that the available schemes fall short of the demands. As a result of this interplay between assimilation and accommodation, thought develops through a sequence of stages that differ qualitatively from each other in mode of representation and complexity of inference and understanding. That is, thought evolves from being based on perceptions and actions at the sensorimotor stage in the first two years of life to internal representations in early childhood. Subsequently, representations are gradually organized into logical structures which first operate on the concrete properties of the reality, in the stage of concrete operations, and then operate on abstract principles that organize concrete properties, in the stage of formal operations.

In recent years, the Piagetian conception of thought was integrated with information processing conceptions. Thus, thought is considered as the result of mechanisms that are responsible for the representation and processing of information. In this conception speed processing, cognitive control and working memory are the main functions underlying thought. In the neo piagetian theories of cognitive development the development of thought is considered to come from increasing speed of processing, enhanced cognitive control and increasing working memory Positive psychology emphasizes the positive aspects of human psychology as equally important as the focus on mood disorders and other negative symptoms. In Character Strength and Virtues Peterson and Seligman list a series of positive characteristics. One person is not expected to have every strength, nor are they meant to fully capsulate that characteristic entirely. The list encourages positive thought that builds on a person's strengths, rather than how to "fix" their "symptoms".

**3.3.4 PSYCHOANALYIS**

"Id", "ego", and "super-ego" are the three parts of the psychic apparatus defined in Sigmund Freud’s structural model of the psyche; they are the three theoretical constructs in terms of whose activity and interaction mental life is described. According to this model, the uncoordinated instinctual trends are the "id"; the organized realistic part of the psyche is the "ego," and the critical and moralizing function the "super-ego.

The unconscious was considered by Freud throughout the evolution of his psychoanalytical theory a sentient force of will influenced by human desire and yet operating well below the perceptual conscious mind For Freud, the unconscious is the storehouse of instinctual desires, needs, and psychic drives. While past thoughts and reminiscences may be concealed from immediate consciousness, they direct the thoughts and feelings of the individual from the realm of the unconscious.

For psychoanalysis the unconscious does not include all that is not conscious, rather only what is actively repressed from conscious thought or what the person is averse to knowing consciously. In a sense this view places the self in relationship to their unconscious as an adversary, warring with itself to keep what is unconscious hidden. If a person feels pain, all he can think of is alleviating the pain. Any of his desires, to get rid of pain or enjoy something, command the mind what to do. For Freud, the unconscious was a repository for socially unacceptable ideas, wishes or desires, traumatic memories, and painful emotions put out of mind by the mechanism of psychological repression However, the contents did not necessarily have to be solely negative. In the psychoanalytic view, the unconscious is a force that can only be recognized by its effects—it expresses itself in the symptom

**3.3.5 SOCIOLOGY**

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A "[thought bubble](http://en.wikipedia.org/wiki/Thought_bubble)" is an illustration depicting thought.

Social psychology is the study of how people and groups interact. Scholars in this interdisciplinary  area are typically either psychologists or sociologists though all social psychologists employ both the individual and the group  as their units of analysis Despite their similarity, psychological and sociological researchers tend to differ in their goals, approaches, methods, and terminology. They also favor separate academic journals and professional societies The greatest period of collaboration between sociologists and psychologists was during the years immediately following World War 2 Although there has been increasing isolation and specialization in recent years, some degree of overlap and influence remains between the two disciplines.

The collective unconscious, sometimes known as collective subconscious, is a term of psychology coined by Carl Jung. It is a part of the unconscious mind, shared by a society, a people, or all humanity, in an interconnected system that is the product of all common experiences and contains such concepts as science, religion, and morality. While Freud did not distinguish between an "individual psychology" and a "collective psychology," Jung distinguished the collective unconscious from the personal subconscious  particular to each human being. The collective unconscious is also known as "a reservoir of the experiences of our species.

In the "Definitions" chapter of Jung'seminal work *Psychological Types*, under the definition of "collective" Jung references *representations collectives*, a term coined by Lucien Levy in his 1910 book *How Natives Think*. Jung says this is what he describes as the collective unconscious. Freud, on the other hand, did not accept the idea of a collective unconscious.

****3.4 **SECTION SUMMARY**

Thought can refer to the ideas or arrangements of ideas that result from thinking, the act of producing thoughts, or the process of producing thoughts. Despite the fact that thought is a fundamental human activity familiar to everyone, there is no generally accepted agreement as to what thought is or how it is created. Thoughts are the result or product of spontaneous acts of thinking.

Because thought underlies many human actions and interactions, understanding its physical and metaphysical origins, processes, and effects has been a longstanding goal of many academic disciplines including artificial intelligence, biology, philosophy, psychology, and sociology.

Thinking allows humans to make sense of, interpret, represent or model the world they experience, and to make predictions about that world. It is therefore helpful to an organism with needs, objectives, and desires as it makes plans or otherwise attempts to accomplish those goals. Thoughts are the keys which determine one's goal.

**Unit 3 Review Questions**

1. The word thought may mean all of these EXCEPT
	* 1. A single idea
		2. The product of mental activity
		3. Belief
		4. Embodiment
		5. Anticipation

2. Thought process include all EXCEPT

* + 1. Consideration
		2. Free association
		3. Problem solving
		4. Ideation
		5. None of the above

3. Consideration is

* + 1. Like mysticism
		2. Obscure or irrational thoughts
		3. Thought processes in problem solving
		4. The process of giving careful thoughts to something
		5. Convergent thinking

4. Theories of thoughts include all EXCEPT

* + 1. Surfaces and essences
		2. Neural theory of language
		3. Thought forms
		4. Linguistic theories
		5. Debatable theories

**Answers**

1. d
2. e
3. d
4. e

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