

THE STRUCTURAL CONCEPT OF CONSTRUCTIVISM IN MODERN THEATRE: STUDY OF *THE PHYSICIST* BY FREDRICK DURRENMATT

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Abstract

A constant phenomenon is change. Taking into consideration the adventurous nature of humans, man is in constant search for discoveries hence, the impossibility of comfortably settling for one rather, when it gets to stage one; he begins to imagine how stage two will look like or feel like. This can be likened to the advent of avant-gardism in the theatre. Avant-garde theatre deals primarily with the experimentation of new forms that break the tradition to achieve a better form. It is through these experimentations that the movement "Constructivism" emerged. Man in his nature is selfish and his selfishness cuts across many factors that affect man's quest for survival without paying attention to the negative consequences his desire may cause. This research, therefore, set out to investigate the level of selfishness of man and the extent he is willing to go to achieve his aim or goal by analyzing the structural concept of constructivism and its contribution to the modern theatre. Content analysis approach under the qualitative research method will be adopted for the content evaluation of *The Physicists* (1961) by Fredrick Durrenmatt and other related literature. Social development theory is used for this research. This research has been able to discover that not all knowledge is positive as there is some knowledge that could be harmful as portrayed in the play *The Physicists*. This research recommends therefore, that man should take up the responsibility of keeping his environment safe and that man in his daily endeavors should avoid waiting for someone to do things for him but, should take full responsibility for his safety and that of his environment.

Keywords: Constructivism, modern theatre, concept, social change, experiment.

Introduction

Constructivism is one of the movements of modern theatre under the umbrella of avant-gardism. Avant-garde is a French term that literary means the "advance guard" in a military formation. It stands as an intellectual, literary, or artistic movement in any age that breaks the tradition and appears to be ahead of its time. Avant-gardists' works are usually experimental and unorthodox. Constructivism is an art movement which originated in Russia in the 1920s. It rejected art as an autonomous idea but favoured it as a practice directed towards social change or that would serve a social purpose. The exponents of the movement defined it "as a combination of *faktura* the particular material properties of an object, and *tektonika* its spatial presence (2). Constructivism is a term used to define a type of totally abstract (non-representational) relief construction, sculpture, kinetics and printing. Edwin Wilson defines Constructivism as:

Post-World War I movement in scene design, in which sets frequently composed of ramps, platforms and levels were non-realistic and intended to provide greater opportunities for physical action. (417)

The movement did not believe in 'art for art's sake': but stated that art had to have a practical function in the revolutionary order. Furthermore, the movement developed as a way to put utilitarianism in abstract form. Similar to the futurist concept, constructivists admired the formal efficiency of machines, manufacturing, photography and technology. The movement experimented with time and motion to make scenery, sculpture and actors as efficient as machines of their admiration of the Scientific Time-management studies as propounded by an American, Fredrick Winslow Taylor. Stage directors of this movement worked to make the form of a stage production fit the function of the play. Here, theatrical form had to express the thought of the playwright and most often the constructivist stage is an abstract metaphor of the playwright's idea.

Types of Constructivism

- Cognitive constructivism. The cognitive constructivism hinged their argument on the work of Jean Piaget. The GSI Teaching Centre;” cognitive constructivism states that knowledge is something that is actively constructed by learners based on their existing cognitive structures. Therefore, learning is relative to their stage of cognitive development”. (5)
- Social Constructivism. This type of constructivism is based theory on Lev Vygotsky’s theory. Saul states that “according to social constructivism, learning is a collaborative process, and knowledge develops from individuals” (8). This research will adopt this theory for the analysis.
- Radical constructivism. Ernst Von Glasersfeld. Radical constructivism advocates according to Saul that “... the knowledge individuals create tells us nothing about reality, and only helps us to function in our environment. Thus, knowledge is invented and not discovered... there is no way to directly access an objective reality, and that knowledge can only be understood through the individual’s subjective interpretation of their experiences. (10)

The Theory of Social Constructivism and the Modern Theatre

There are various theories of constructivism, one of the theories states that learning depends solely on the individual. According to its proponents, learning takes place when an individual constructs the information given to him/her by the teacher in a way he/she can understand. According Saul,

Constructivism ... emphasizes the role of learners in building their understanding. Rather than passively receiving information, learners reflect on their experiences, create mental representations, and incorporate new

knowledge into their schemas. This promotes deeper learning and understanding (1)

The theory further states that categories of knowledge and reality are actively created by social relationships and interactions. Constructivism as a paradigm posits that learning is an active, constructive process for it is believed that people actively construct or create their subjective representations of objective reality. New information is linked to prior knowledge, thus, mental representations are subjective. Vygotsky posts;

Constructivism states that learning is an active, contextualized process of constructing knowledge rather than acquiring it. Knowledge is constructed based on personal experiences and hypotheses through social negotiation. Each person has a different interpretation and construction of the knowledge process. The learner is not a blank slate (*tabula rasa*) but brings past experiences and cultural factors to a situation (46).

In the practice of the above theory, instructors are not to tell learners anything directly but, instead, should always allow them to construct knowledge for themselves. Because, constructivism assumes that all knowledge is constructed from the learner's previous knowledge, regardless of how one is taught. According to David Wright, "Constructivism is an interpretative approach that emphasizes the meaning-making activity of the individual mind".(45)

Social constructivism is a theory of knowledge and reality that are actively created by social relationships and interactions. Social development theory as propounded by Vygotsky states that social interaction precedes development; consciousness and cognition are the end product of socialization and social behavior. In his theory, he propounded three major themes of social development theory:-

- Social Interaction. Vygotsky asserts that social learning precedes development in contrast to Jean Piaget's

understanding of child development in which development necessarily precedes learning. In the words of Vygotsky, "Every function in the child's cultural development appears twice: first on the social level, and later, on the individual level: first between people (inter-psychological) and then inside the child (intra-psychological) (57)

- The More Knowledge Other (MKO). He refers this to anyone who has a better understanding or a higher ability level than the learner, concerning a particular task, process or concept. The MKO is normally thought of as being a teacher, coach, or older adult, but the MKO could also be a peer, a younger person, or even a computer.
- The Zone of Proximal Development (ZPD). This is the distance between a student's ability to perform a task under adult guidance and/ or with peer collaboration and the student's ability to solve the problem independently. In Vygotsky's postulations, when this happens, learning occurs in this zone. He thinks that humans use tools that develop from a culture; such as speech and writing to mediate the social environments. Initially, children develop these tools to serve solely as social functions, and ways to communicate needs and the internalization of these tools leads to higher thinking skills.

Constructivism borrowed ideas from cubism, supermatism and futurism, but primarily had an entirely new approach to making objects, one which sought to abolish the traditional artistic concern with composition and replace it with construction. The movement called for a careful technical analysis of modern materials, and it was hoped that this investigation would eventually yield ideas that could be put to use in mass production, serving the ends of a modern communist society. Constructivist movement sought to replace the concern of art tradition with a composition that focus on construction. Initially, objects were created to express beauty, or the artist's outlook, or to represent the word. Still, in the

constructivists' point of view, artists are to carry out a fundamental analysis of the materials and forms of art, one which might lead to the design of functional objects. Many constructivist artists advocated for entailed ethics of "truth to materials" which is a belief that materials should be employed only by their capacities, and in such a way the maximum use of such material could be discovered.

The constructivists were more interested in the content of the material other than what the material could offer and as such, the form of artwork would take would be dictated by its materials and not the other way round as in the case of traditional art forms in which the artist transforms base materials into something very different and beautiful. Constructivists were projected to be constructors of a new society -cultural workers on par with scientists in their search for solutions to modern problems. Yvonna Lincoln argues as stated by David Wright that

“constructivist paradigm has ‘as its central focus not the abstraction (reduction) or the approximation (modelling) of a single reality but the presentation of multiple, holistic, competing and often conflictual realities (including the inquirer’s). It is a reporting process that focuses on the various meaningful constructions of an individual mind. It invites us, in Cortty’s words, to ‘approach the object in a radical spirit of openness to its potential for new and richer meaning. It is an invitation to reinterpretation’. This is a powerful challenge to the tradition of learning that has long focused on the effective mastery of prior knowledge (47).

Synopsis of *The Physicists* by Friedrich Durrenmatt

The play is about a character Mobius who makes a scientific discovery that he believes is dangerous to mankind. To protect mankind, he faked insanity by claiming that King Solomon appeared to him and he was locked up at a Sanatorium where he met two guys who believed that they were Sir Isaac Newton and

Albert Einstein but it was revealed that they were spies whose mission is to get hold of Mobius discoveries but unfortunately for them, the one that got the document was Von Zahnd who aims at being the world's most powerful woman on earth through her stolen documents of Mobius discoveries and constant visitations by King Solomon.

Plot

The ironic twist in the plot of the play is incredible as the playwright made use of the raw material as ascribed by the constructivists. The raw material being man's desire to attain the best in life and wouldn't want to settle for less was used as a driving force to develop the story. The playwright profoundly concealed the real identities and purpose of the characters of the play to create intrigue and suspense. The believed insane patients of the Sanatorium happen to be the world's best-renowned physicists - the character Mobius discovered how to solve the problem of Gravitation and The Unitary Theory of Elementary Particles while "Newton" who registered the name Georg Beutler happens to be Alee Jaspas, the person that discovered the Theory of Equivalents and "Einstein" who registered with the name Ermensti Heinrich happens to be Joseph Eisler the person that discovered the theory of the Eisler-Efect. Meanwhile, the owner of the Sanatorium who is supposed to be a Psychiatrist treating the patients has an ulterior motive ironically, she happens to be the one who is mad and she has been secretly duplicating the manuscript of Mobius's discoveries; believing that with stolen manuscript and constant visitations by King Solomon that she would become the world's most powerful woman on earth. Meanwhile, to the utmost dismay of the three physicists who finally decided to stay back in the Sanatorium for the sake of mankind's safety and to stay free as physicists became prisoners instead of patients and there was nothing they could do about it as Von Zahnd used the murders the

three of them committed at different occasions to blackmail them in case they want to expose the truth.

Characterisation

In constructivist movement, materials are utilized by the content and the raw form in their work of art and the result of such utilization the result will become the true art other than materials being beautified to suit the purpose. This attribute is portrayed in all the characters of the play but for citation, the character of Monika - one of the nurses who attends to the Sanatorium patients is seen as driven by her natural nature. The natural form of a woman is believed to be love and care and the playwright made use of the raw material given to women by nature to create the character which aided in the plot development of the play. Although faced with danger her nature as a woman does not allow her to make a logical decision which is to detach from the supposedly love she has for Mobius and this leads to her death. As depicted in Act One,

Monika: I love you.

Mobius: I love you too. (She stares at him) That is why you are in danger. Because we love one another. (47)

But Monika insists and Mobius goes further to convince her to leave him alone for her good but his efforts proved abortive. Act One:

Mobius: ...in the eyes of the world, you are in love with a man who's mentally sick. You're simply asking for trouble. Leave this place; forget me: that would be the best thing for us both (52).

Irrespective of the danger that lurks around Monika and the other nurses they refused to heed the admonition to leave the men alone. This can be likened to the Greek tragedy where the tragic character

is gruesomely blinded with ego that eventually leads to the character's downfall. In Act One "Einstein" makes a revelation;

Einstein: Nurse Irene and I were in love too. She would have done anything for me. I warned her... Then I strangled her ... in all the world there is nothing more absurd than a woman's frantic desire for self-sacrifice. (51)

The plot development of *The Physicists* was hinged on the theory of social development which is one of the theories of constructivism. The theory states that learning occurs in the process of socialization. One can acquire or get information through social interaction and this was greatly portrayed in the character of Von Zahnd who was indirectly stealing from Mobius in the name of treating/relating with him. It was through the interaction between Von Zahnd and Mobius that she was able to know that Mobius had something priceless he could benefit from. In Act Two;

FRL Doktor: ... I was a doctor and Mobius my patient I could do with him whatever I wished ... and made photocopies of the golden King's proclamations down to the last page (..)

The socialization theory was also, utilized by the playwright to reveal the true identities of the characters of the playwright. This took place when they were eating dinner after the murder of the third nurse. Act two;

Newton: Nor am I Hebert Georg Beutler, as they think here, my real name dear boy is Wilton.

Mobius: Alee Jaspar Wilton?

Newton: Correct.

Mobius: The author of the Theory of Equivalents?

Newton: The very same.

Mobius: So you wangled your way in here?

Newton: By pretending to be mad.

Mobius: To spy on me? (67)

As they were still discussing, Einstein walked into the hall from his room and joined in the conversation. Acts two;

Einstein: You were not the only one who read that dissertation, Wilton ... As a matter of fact, I'm not mad either. May I introduce myself? I too am a Physicist. Member of a certain intelligence services ... my name is Joseph Eisler (69)

The technique of the constructivists, ' work towards not presenting art for art's sake and the playwright made use of this in his work to create a twist of events in the plot of the play. The construction of the play is structured in such a way that the whole truth of the play is buried within the characters and is revealed through social interaction. In essence, for one to pinpoint the true state of things in the play, there must be an in-depth search for some revelation through the conversations between characters of the play. The conversation between the doctor and the Inspector is where the playwright gives his readers the hint that the Doctor's mental state is unstable. This was portrayed in Act One;

Inspector: Only three?

FRL. Doktor:The rest were transferred to the new wing immediately after the first incident. Fortunately, I was able to complete the building just in time. Rich patients contributed to the costs. So did my relations. They died off one by one, most of them in here. And I was left the sole inheritor. My family is so ancient, it is something of a miracle, in medicine that I should be relatively normal, I mean, mentally (29)

Further in the development of the play, the mental state of the Doctor is revealed in the conversation that takes place with Monika and Mobuis in Act One:

Mobius: Fraulein Doktor Von Zahnd has arranged everything, of course, she still considers you a sick man, but not dangerous. And it is not a hereditary sickness. She said she was madder than you and she laughed (54)

The climax of it all was when the three Physicists confirmed that the Doctor was mentally not sound when they were all gathered in the hall. The Doctor informed that she had made a copy of Mobius's documents and that she was being visited by King Solomon himself that the King wanted her to take over from where Mobius stopped and that the King said that Mobius had betrayed him by deciding to keep secret what is not meant to be secret. This was portrayed in Act Two;

FRL Doktor: You alone shall hear my secret. You alone among men. Because it doesn't matter whether you know or not. Silence. (Granaly:) He has appeared before me also, Solomon, the golden King.

All three stare at her in perplexity

Mobius: Solomon?

FRL Doktor: This many a long year ... The first time was in my study...

Einstein: She's gone mad (88)

Mobius (Insistently): Fraulen Doktor Mathilde Von Zahnd, you are sick. Solomon does not exist. He never appeared to me

FRL. Doktor: Liar.

FRL Doktor: I only pretend to see him to keep my discoveries secret.

FRL Doktor: You deny him

Mobius: Do be reasonable. Don't you see you're mad?

FRL Doktor: I'm no more mad than you.

Mobius: Then I must shout the truth to the whole world. You sucked me dry all these years, without shame ...

FRL Doktor: You are powerless Mobius. Even if your voice were to reach the outside world, nobody would believe you. Because to the public at large, you are nothing but a dangerous lunatic. By the murder you committed90)

From the above dialogue, it was made clear that the information which Mobius had sort to hide from the world had been made known through the evil plotting of the Doctor. The Doctor used the game played by Mobius against him, he pretended to be mad and she played along while tapping into his discoveries. The Doctor and Mobius do not share the same views because the Doctor believes that the discoveries made by Mobius a first-class information that be used to attain power while Mobius feels that the discovery is dangerous to humanity and takes the responsibility of hiding it from the world. Furthermore, the unfolding facts of the play through socialization were made evident in the characters of the nurses. Through socializing with Mobius aside from administering his daily medications, Nurse Monika discovered that Mobius was indeed not mad but a scientist who was to be discovered. The same was true for the other two nurses that were murdered. Factually, they discovered that the three men were not mad was what led to their sudden deaths.

Set design in the constructivist movement embarked on new principles of set design that rejected painted decoration and backdrop curtains they instead sought for the construction of theatrical spaces that are volumetrically distinguished by the dynamism and economical form. Their stage settings reflect Exter's belief that the role of a theatre designer is to provide the actor with unobstructed space which would improve performance. While designing for the constructivist stage, focus is being made on bare natural textures of surfaces and the architectural logic of structures. In light of the above theory, the stage setting described by the playwright in his work *The Physicists* is no ordinary painting on backdrops or curtains but that which requires extensive

construction with raw materials to achieve the sets of the play. This is vividly described in Act Two of the play: "Murillo let down a metal gird over the window. The room now suddenly has the aspect of a prison " (72). From this description, it is evident that the set designer is posed with the challenge of actualizing the set through some series of construction and this cannot be achieved using just paint on the wall. The emphasis paid to the set design of the play can also be seen where the playwright made use of three pages or more at the beginning of the play to describe the setting of the play in Acts One where the playwright made an elaborate description of the environment of the sanatorium; "*A lakeside which deteriorates to a built-up area and into a medium-sized or even smaller room ... Blue mountain ranges, hills geometrically forested and fairly large lake.*" (8). The above type of elaborate description of the set design was equally portrayed in Act One;

“... so the landscape is, in a superficial way, restful to the nerves, there are blue mountain ranges, hills geometrically forested and a fairly large lake, as well as a broad plain, once a dismal moor, which turns misty in the evening (9)

Conclusion

Constructivism as an artistic movement emerged out of the need to rebuild society after World War I. The movement advocated for individuals to take up the responsibility of rebuilding the society destroyed by War. It also advocated that man should be intentional in some decision-making to protect his society especially as it regards societal security. This was portrayed by the Playwright through the character of Mobius who knew that his discovery would be harmful to society and he decided to deny himself of the glory and fame that would come with publicizing his discovery and also denying himself the love of his wife and children. Thus, this avant-garde experimentation under the vehicle of constructivism is useful in societal protection and development. According to Nwosu (2014);

These avant-garde theories enable modern playwrights to portray man as the architect of his fortune controlled only by chance, by the random but average forces of nature's molecules and in a relentless opportunistic force that controls the universe. (17)

Recommendation

The selfless attribute of Mobius is noble and is therefore recommended for societal positive development hence, individuals should start taking responsibility for their actions and also join forces with the government in developing a safe society. Also, the act of socialization has been proven to be useful to a developing society.

Works Cited

- Edwin, Wilson. *The theatre Experience*. New York: McGraw-Hill, 2004
- Nwosu, Canice Chukwuemeka. *Postmodernism and Paradigm Shift in Theory and Practice of Theatre*. Onitsha: Eagleman books, 2014.
- Vygotsky, Lev. *Interaction Between Learning and Development. Readings in the Development of Children*. USA: Harvard University Press, 1978.
- Wright, David. *Constructivist Inquiry and Learning in Drama*. Australia University of Western Sydney, 2017.
- Durrenmatt, Fredrich. *The Physicist*. <https://www.scribd.com/doc/55714315/The-Physicists-by-Fredrich-Durrenmatt>.
- Teaching Guide for GSIs. Learning: Theory and Research (2016). Retrieved from <http://gsi.berkeley.edu/media/learnig.pdf>
- Mcleod, Saul. *Constructivism Learning Theory and Philosophy of Education* (2023). Retrieved from <https://www.simplypsychology.org/constructivism.html#Types-of-Constructivism>

