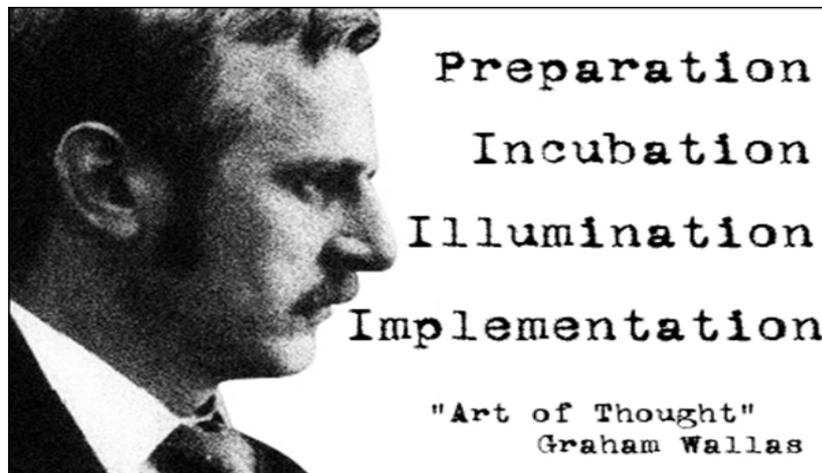


CHAPTER FORTY

GRAHAM WALLAS: A GIANT STANDING ON GIANTS

FREDRICKA REISMAN

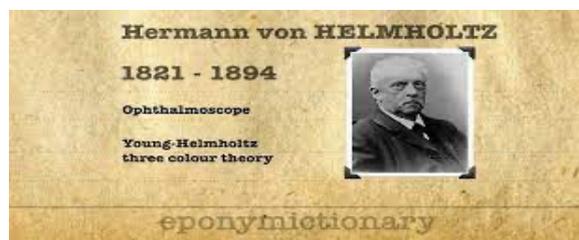
Graham Wallas was born in North East England in 1858 and died in 1932 at age 74. He married Ada Radford in 1897 and they had one daughter, May. He was educated initially at a school established by King Edward VI in 1552. Wallas held several teaching roles and was a co-founder of the London School of Economics. He also was politically active and was described as an English socialist, social psychologist, educationalist, and leader of the Fabian Society. The Fabians lobbied for the introduction of a minimum wage in 1906 (ranging from a high in Australia of \$12.59 to a low in Mexico of \$1.21 and middle ground for United States of \$7.25), for the creation of a universal health care system in 1911, for the abolition of hereditary peerages in 1917, and advocated for women's emancipation including supporting suffrage movements in Britain and internationally (Crawford, 1999). Pictured next is Wallas and components of his theory.



In his classic book entitled *The Art of Thought* (1926), Wallas mined ideas from the writings of Aristotle (p.63 of *The Art of Thought*), James (p.97), Dewey (p.98), Wundt (p.98), and Freud (in Varendonck, p.67). Wallas's model of creative thinking is particularly rooted in the ideas of Helmholtz and Poincaré. For example, Wallas selected this short excerpt from

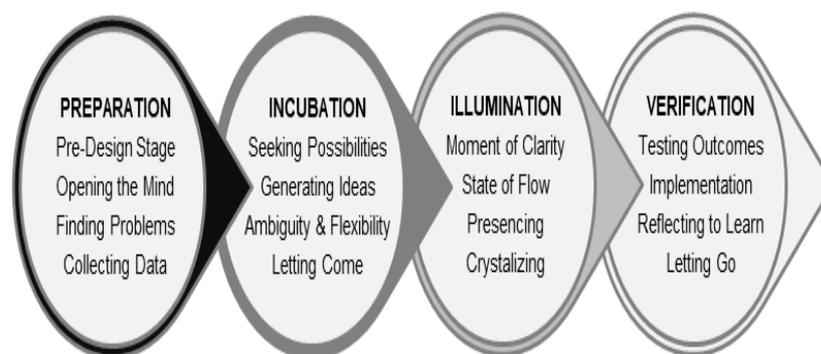
Helmholtz's 70th birthday banquet speech on November 2, 1891 in which Helmholtz described how his most important new thoughts came to him:

[Following] previous investigation of the problem in all directions...happy ideas come unexpectedly without effort, like an inspiration. So far as I am concerned, they have never come to me when my mind was fatigued, or when I was at my working table...they came particularly readily during the slow ascent of wooded hills on a sunny day" (Helmholtz quoted in Wallas, 1926, p.80; cited by Wallas from Rigano, 1923, p.267-268). Helmholtz is pictured below.



The baseline assumption in Wallas's writings is that "creative thinking can be delineated" and this led him to a "four-stage description of the creative process" (Runco, 2014: p.21). From Poincaré's writings, Wallas focused on developing the *incubation* stage of his 4-stage model of creativity, which are preparation, incubation, illumination, and verification.^[1] These stages are described next and depicted graphically in Figure 37.1.

Figure 1: Graphic Representation of Wallas's Four Stages of the Creative Thinking



Source: David Sledge Dissertation entitled Collaboration, Dialogue, and Creativity as Instructional Strategies for Accredited Architectural Education Programs: A Mixed Methods Exploratory Investigation-A Dissertation Submitted to the Faculty of Drexel University by David C. Sledge in partial fulfillment of the requirements for the degree of Doctor of Education (July 2021).

Preparation Stage

During the Preparation stage, the problem is investigated from all angles and includes the accumulation of information out of which emerge new ideas. The mode of thought in Preparation is conscious, voluntary, and regulated (Wallas, 1926, p.85). Wallas included logic, mathematics, experimental and observational sciences in Preparation.

Incubation Stage

The next stage involves unconscious processing where one is unaware that cognitive activity is going on. Wallas discussed this stage as having two aspects – positive and negative. The positive side involves a series of unconscious, involuntary cognitive events taking place. The negative side pointed out that during the Incubation stage we don't consciously deliberate on a particular problem. Wallas (1926) writes:

Voluntary abstention from conscious thought on any problem may, itself, take two forms: the period of abstention may be spent either in conscious mental work on other problems, or in a relaxation from all conscious mental work. The first kind of Incubation economizes time and is therefore often the better.

Also defining Incubation, Ut Na S & Ormerod (2009) write:

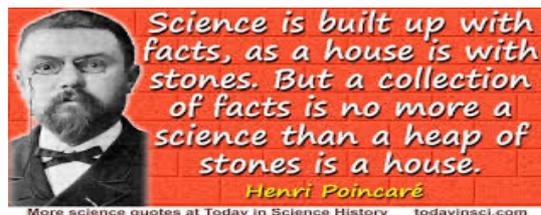
Incubation is defined as, when attending to a different task, humans forget about the previous unsuccessful attempts and can engage with the task anew, often leading to finding the solution. Incubation is related to intuition and insight in that it is the unconscious part of a process whereby an intuition may become validated as an insight. Incubation substantially increases the odds of solving a problem, and benefits from long incubation periods with low cognitive workloads. Incubation is related to intuition and insight in that it is the unconscious part of a process whereby an intuition may become validated as an insight. Incubation substantially increases the odds of solving a problem, and benefits from long incubation periods with low cognitive workloads (Ut Na S & Ormerod, 2009).

Illumination

Wallas found Poincaré's ideas on Illumination critical as Poincaré talks about the value of "procrastination," which is in fact a valuable part of ideation:

...that flash of insight that the conscious self can't will and the subliminal self can only welcome once all elements gathered during the Preparation stage have floated freely around during Incubation and are now ready to

click into an illuminating new formation. And Poincaré (pictured next) also says:



But, Wallas admonished that Illumination can't be forced:

If we so define the Illumination stage as to restrict it to this instantaneous "flash," it is obvious that we cannot influence it by a direct effort of will; because we can only bring our will to bear upon psychological events which last for an appreciable time. On the other hand, the final "flash," or "click" ... is the culmination of a successful train of association, which may have lasted for an appreciable time, and which has probably been preceded by a series of tentative and unsuccessful trains. The series of unsuccessful trains of association may last for periods varying from a few seconds to several hours.

Verification Stage

This last stage and the first (Preparation) are thought as the bookends of Wallas's theory as it shares with the Preparation stage a conscious and deliberate effort to test the validity of an idea. Once again borrowing from Poincaré's pioneering theories, Wallas cites Poincaré:

It never happens that unconscious work supplies *ready-made* the result of a lengthy calculation in which we only have to apply fixed rules... All that we can hope from these inspirations, which are the fruit of unconscious work, is to obtain points of departure for such calculations. As for the calculations themselves, they must be made in the second period of conscious work which follows the inspiration, and in which the results of the inspiration are verified and the consequences deduced. ... They demand discipline, attention, will, and consequently, conscious work ... (Poincaré, 1908)

Reflections on Wallas's 4 Stages

A most important aspect of Wallas's stages is their interplay and the fact that none of them exists in isolation from the rest. Wallas notes:

In the daily stream of thought these four different stages constantly overlap each other as we explore dif-

ferent problems. An economist reading a Blue Book, a physiologist watching an experiment, or a business man going through his morning's letters, may at the same time be "incubating" on a problem which he proposed to himself a few days ago, be accumulating knowledge in "preparation" for a second problem, and be "verifying" his conclusions on a third problem. Even in exploring the same problem, the mind may be unconsciously incubating on one aspect of it, while it is consciously employed in preparing for or verifying another aspect. And it must always be remembered that much very important thinking, done for instance by a poet exploring his own memories, or by a man trying to see clearly his emotional relation to his country or his party, resembles musical composition in that the stages leading to success are not very when success in thought means the creation of something felt to be beautiful and true rather than the solution of a prescribed problem, the four stages of Preparation, Incubation, Illumination, and the Verification of the final result can generally be distinguished from each other...when success in thought means the creation of something felt to be beautiful and true rather than the solution of a prescribed problem, the four stages of Preparation, Incubation, Illumination, and the Verification of the final result can generally be distinguished from each other (Sadler-Smith, 2015)..

Critique of Wallas's 4 Stages

An argument is that analysis of Wallas's four-stage model of the creative process (Preparation, Incubation, Illumination, Verification) suggests that a five-stage model is a better representation of his explanation of creativity. The five stages suggested are: Preparation, Incubation, Intimation, Illumination, and Verification (Sadler-Smith, 2015). It is argued that this 5-stage model accommodates more recent creativity research including neuroscience, imagination and intuition.

An additional suggestion for a 5-stage model comes from an eclectic group of instructors called the MasterClass involving Gordon Ramsey in cooking, Malcolm Gladwell who teaches writing, Robin Roberts who teaches effective and authentic communication, Ron Howard teaching Direction, Spike Lee and Martin Scorses who teach filmmaking, Helen Mirren and Samuel Jackson who teach acting, Steve Martin teaches comedy, Bob Woodward teaches investigative journalism, Itzhak Perlman who teaches violin and many more ([https://www. Masterclass.com/categories#film-tv](https://www.Masterclass.com/categories#film-tv)). The MasterClass version of the creative process is a 5-stage model is comprised of Preparation, Incubation, Illumination, Evaluation, and Verification.

But first, they say the following about the creative process:
“the evolution of an idea into its final form through a progression of thoughts and actions. The creative process involves critical thinking and problem-solving skills. From songwriters to television producers, creative individuals generally go through five steps to bring their ideas to fruition—Preparation, Incubation, Illumination, Evaluation, and Verification. These stages were first articulated by Graham Wallas, a social psychologist and co-founder of the London School of Economics who outlined the primary stages of the creative process in his 1926 book on creativity called *The Art of Thought*.”

The 5 Stages of the MasterClass Creative Process

The MasterClass staff write:

While all creative people apply unique methods and thought processes to their work, there are five stages that most creators subconsciously follow while pursuing their creative endeavors. The five stages of the creative process each flow logically into the next phase of the process. As you embark on your own creative process, unleash your mind and let your ideas grow through the five stages of creativity.

1. Preparation stage: As you begin the creative journey, the first stage involves prep work and idea generation. This is when you gather materials and conduct research that could spark an interesting idea. Brainstorm and let your mind wander, or write in a journal to foster divergent thinking; this will help you consider all possible approaches to building out your idea. In this first part of the process, your brain is using its memory bank to draw on knowledge and past experiences to generate original ideas.

2. Incubation stage: When you have finished actively thinking about your idea, the second stage is where you let it go. Part of creative thinking is taking a step away from your idea before you sit down to flesh it out. You might work on another project or take a break from the creative process altogether—regardless, you are not consciously trying to work on your idea. Walking away from your idea might seem counterproductive, but it’s an important stage of the process. During this time, your story or song or problem is incubating in the back of your mind.

3. Illumination stage: Sometimes called the insight stage, illumination is when the “aha” moment happens. The light bulb clicks on as spontaneous new connections are formed and all of that material you’ve gathered comes together to present the solution to your

problem. In this third stage, the answer to your creative quest strikes you. For example, you overcome writer's block by figuring out the ending to your story. It can take you by surprise but after the incubation stage, an idea has emerged.

4. Evaluation stage: During this stage, you consider the validity of your idea and weigh it against alternatives. This is also a time of reflection when you look back at your initial concept or problem to see if your solution aligns with your initial vision. Business professionals might do market research to test the viability of the idea. During this phase, you might go back to the drawing board or you might forge on, confident in what you've come up with.

5. Verification stage: This is the final stage of the creative process. It's when the hard work happens. Your creative product might be a physical object, an advertising campaign, a song, a novel, an architectural design—any item or object that you set out to create, propelled by that initial idea that popped into your head. Now, you finalize your design, bring your idea to life, and share it with the world.

Summary

In researching data regarding Graham Wallas's theory that he offered in his 1926 publication entitled *The Art of Thought*, his broad interests and accomplishments as a politician, philosopher, scholar, economist, educator, theorist, and more became apparent. Wallas borrowed insights of others and synthesized their ideas into a brilliant complex yet simple framework that is understandable and applicable. Wallas's gift to us is captured by the graphic designer Paula Scher as she likens Wallas's theory to the winning alignment of a slot machine, the same kind of "chance-opportunism" masquerading as serendipity that fuels much of scientific discovery (Scher, 2012).

Wallas's 1926 classic was published almost nine decades ago and is still widely referenced today. His work still serves as a "conceptual anchor" for many creativity researchers to name only a few (Orlet, 2008; Pagel & Kwiatkowski, 2003; Segal, 2004; Reisman & Severino, 2021, Reisman et al, contracted). Although some creativity researchers have proposed modifications (e.g. Cropley, D. & Cropley, A., 2012) most have held to the four-stage model.

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Graham Wallas