



Café Scientifique Newsletter

Half Term 3: 15/02/22

Psychology

INSIDE

Academic Articles

Written by teachers and current Psychology students in the L6th

Podcasts and Documentaries

Reviews of what to watch and listen to, to get your mind into psychology.

Events

Updates of what's happening this term.



Hello and Welcome to the third edition of the Café Scientifique Newsletter. Throughout this half term's letter, our main focus has been Psychology: covering topics such as Forensic Psychology, 'What is Psychology?' and how the mind works.

We have had the privilege of being able to present the work of many students throughout King's High, from their work on articles to podcast reviews and much more!

We would like to congratulate the winners of the Café Scientifique/ Lit and Phil: Underrepresented voices in STEM competition for their superb writing. Please take a look at their amazing work at the end of this newsletter, and we thoroughly hope that you enjoy reading this fascinating edition of the newsletter.

A particularly interesting article that I came across when looking for psychology inspiration was why wordle is so addictive - click [here](#) to read.

Many thanks for taking the time to read this newsletter, - Katy and Olivia.

Café Scientifique Newsletter: Articles

Influences on Conformity: The Zimbardo Study

-By Jessy

In the 1970's Zimbardo conducted a research experiment to test how social roles influence a person's behaviour. They wanted to know why prison guards behaved so brutally to their inmates. Zimbardo wanted to find out if people have a sadistic personality which makes them perform violent acts or if the social roles in which they partake in effect their actions more.

From 2003-2004 United States Army Police personal committed violent human rights acts on Iraqi prisoners in the Abu Garib prison located in Baghdad. They were tortured, and physically abused, some were even murdered. This encouraged Zimbardo to conduct his own 'artificial' prison study to investigate into the behaviour of people when they are put into a position of authority.

The Stanford Prison Experiment:

Zimbardo set up a mock prison in the basement of the psychology department and selected 21 men to participate all which were stated as being 'mentally stable.' They were randomly assigned to play the role of prisoner or guard to limit personality driven roles. They were given uniforms to wear, prison clothes and the guards included a wooden club, handcuffs, and mirror shades. This gave them loss of identity and are more likely to conform to the roles.

Guards treated prisoners harshly within the first two days and prisoners rebelled. If prisoners did not obey the guards they were severely punished and out in 'the hole'; a tiny dark closet. One prisoner had to leave due to psychological distress and two more after. One prisoner even went on hunger strike. Zimbardo had to shut down the study after six days instead of the intended four.

Conclusion:

Social roles do influence people's behaviour. The guards become brutal, and the prisoners become submissive. They had acted in a way of being in an actual prison not an artificial one.

Where can psychology take me as a career?

Studying a degree in psychology is useful for so many careers because you will have a better understanding of people and this is ALWAYS useful. But studying psychology also gives you lots of scientific and numeracy skills as well as communication skills because of the essays you will learn to write. This means you will have lots of great employability skills allowing you to apply for many different graduate jobs.

However, studying psychology as a degree also means you could do further study to qualify as a specialist psychologist such as: forensic, clinical, sports or educational psychologist. These are just some of the specialisms that psychologists can enter - for a more comprehensive list check out: <https://careers.bps.org.uk/>

What is Psychology?

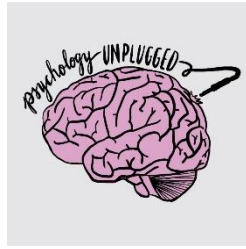
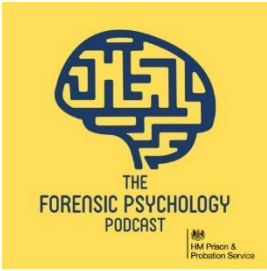
-By Ms Ostrander

Psychology is the scientific study of the brain and behaviour. Mostly this refers to the human brain, but psychologists are interested in other animal brains and their behaviour too. This is what originally brought me into psychology, my interest in animals and animal behaviour.

Some of the many different topics that we look at in the A Level include:

- Memory (what it is, different types, why we forget and how we can improve our abilities when we are eyewitnesses to a crime and need to remember 'who did it!')
- Social Psychology (why do we conform, why do we obey, how come some people can resist conforming and obeying and how these forces work together to bring about huge social changes like women's right to vote and more recently LGBTQI+ rights)
- Psychopathology (how do we decide who is mentally ill? The characteristics, explanations and treatments for phobias, depression, schizophrenia and OCD)
- Attachment (what kind of attachment bond did we form as infants and how does this affect our lives now, what happens to children who are not able to form this bond)
- Biopsychology (structure and function of the brain, brain plasticity, split brain research and how biorhythms affect us)
- Gender (how can we explain the concept of gender which is not the same as our biological sex of XX or XY, how do hormones influence this, how does the media influence this and what happens when our biological sex and our gender don't match).

Psychology is a science and so we look at lots of research studies. One large topic we cover is Research Methods which helps students become good scientists and fully able to design studies as well as evaluate other people's studies - for good or bad!



The Forensic Psychology Podcast

-By Katy

Want to know what makes a criminal? Want to know how courts of law make decisions about parole? Want to know what happens as a psychologist working in prison? Find out all this and more by listening to the forensic psychology podcast. The first episode outlines the experience and advice of two current forensic psychologists.

With insider information on at working inside a prison, we learn about the importance of community, impacts of every action and the power imbalance found between prisoners and the psychologists. The hosts also discuss the importance of a work-life balance and how to separate supporting criminals and relaxing when you get home. What I found most interesting were the misconceptions of being a forensic psychologist (mostly developed by media) such as delivering training instead of working with others and being on a police force (that's a forensic scientist - oops). Click [here](#) to find out more.

The Fake Psychic

-By Alice

This intriguing six-part podcast focuses on a man known as Lamar Keene, who claimed to be able to speak to the dead. After a decade he then revealed he was a con artist, using physical and psychological tricks, with many psychics working together in order to deceive the public in the pursuit of profit.

This podcast investigates interviews with people who knew Lamar and fell for his cons, as well as exploring Lamar's own writings. I found this to be an eye-opening insight into how our emotions can influence our beliefs, as well as the extreme effects that psychological issues and trauma can have upon our perceptions.

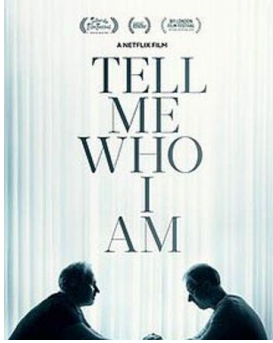
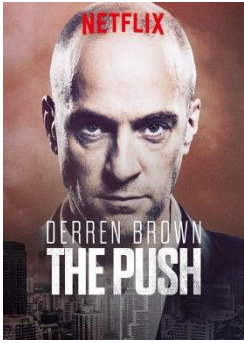
The podcast is available on BBC sounds, click [here](#) to listen.

Psychology Unplugged

-By Olivia

This podcast, presented by the Clinical Psychologist and Neuropsychologist Dr Corey, is a truly captivating and fascinating series; with an extensive list of academic topics that are discussed, from Neurotransmission and Dissociation to the uses of Cognitive Behavioral Therapy. The perspective of this professional in the field of Neuropsychology was very insightful and allowed for an analytical take on the topics discussed.

The podcast is available on Spotify, click [here](#) to listen.



Three Identical Strangers

-By Elin

Identical strangers become separated at birth and adopted by three different families. Years later, their amazing reunion become a global sensation but also unearths an unimaginable secret that has radical repercussions.

The movie was surreal and surprising! It's the real-life parent trap.

Strangers effectively question the nature of reality and identities; I was captivated by this shocking documentary. This story is incredible but also extremely infuriating. It raised questions about ethics and justice. If it wasn't a documentary, you wouldn't believe it was real!

Overall, this is an incredible and engaging film. Available on hulu and channel 4, click [here](#) to watch the trailer.

Derren Brown: The Push

-By Lauren

In 'The Push' the magician and sociologist Derren Brown investigates the power of compliance by persuading a member of the public to conform to instructions, in order to keep an authority figure on their side, even to the extent of murder. Available on Netflix, this movie provides a powerful insight into how manipulable we can really be, through a suspenseful and thrilling plot, and I would definitely recommend for ages 13+.

Tell Me Who I am - Netflix

-By Maya

The documentary is extremely gripping and clearly presents the re-enactment of Alex and Marcus's story. A summary of the story line is that Alex had a very serious motorbiking accident when he damaged part of his brain. When coming back round after surgery Alex recalls seeing a lady at his bed extremely hysterically but does not recognise who she is. He then notices his twin brother Marcus and instantly recognises him. From then on Alex puts all his trust into Marcus as he is the only person Alex has memory of and they therefore get to work at restoring his memory although Marcus keeps a very big and distressing secret from him. But once both their parents had died, when the two boys were clearing out their home, Alex discovers a photo that would uncover all the dark secrets that were kept from him.

I felt that the documentary had a very strong link to not only the memory topic but also to the social influence topic and gave a very realistic representation of how these topics link to real life situations. It presented a very clear story line and I think the added present-day interviews really helped to engage the past story into the present day situations. The psychological factors were extremely real and easily link to the A level psychology course and particularly helps with understanding how social influence and particularly conformity works. I would highly recommend watching it if you are doing psychology or are considering it as an option for you A levels as it gives a great insight into the type of concepts you will learn and also shows the types of case studies you will look at.

THE BIG 5 PERSONALITY TEST

Low Score	Big-5 Personality Trait	High Score
Dislike Change and abstract concepts, more practical	Openness	Creative, Sensitive, Active Imagination
Impulsive, disorganized, prone to procrastinate	Conscientiousness	Like to plan a meticulously, dependable
Dislike Social Gatherings and small talk, reserved	Extraversion	Outgoing, assertive, adventurous, like to socialize
Come of as hostile, suspicious and even manipulative	Agreeableness	Empathetic, Caring, trusting
Calm, even tempered, relaxed	Neuroticism	Can have dramatic mood swings, get easily upset or anxious

<https://openpsychometrics.org/tests/IPIP-BFFM/> - Click this link to read fill out the personality test to find out about your 'big 5' personality characteristics.

Café Scientifique Newsletter: Articles

The Jung Ones

There's more to me than meets the eye:
Unconscious beings deep within.
If I were you - you might be me,
If he was her, she could be him.
Cos he's your Mum, & she's your Pa
It's *Animus* and *Anima*.¹
Apart from gender - you, your-Self
Are absolutely someone else,
As anyone can clearly see
When *The Shadow* comes to tea.
What's more, since the very earth began,
I once was woman then was man -
Or Aunty Bill or Uncle Dolly,
No wonder that it seems such folly,
To try and fix me in a role
When *Transmigration of the Soul*²
Will only see me rise anew –
So next time round, I could be you!
It's Pythagoras we have to blame
For starting up this crazy game
Carl Gustav Jung is also weird
I think I'll borrow Aunty's beard.



M.J.B. October 2020

by Dr Barwell

¹ The **anima** and **animus** are described in Carl Jung's school of analytical psychology as part of his theory of the collective unconscious

² Belief that **the soul is reborn in one or more successive mortal bodies**; a form of reincarnation. A tenet of Asian religions such as Buddhism, it was also accepted by the followers of Pythagoras and Orphism in Greece during the 6th century BC

Café Scientifique Newsletter: Articles

How could psychology help in understanding criminal behaviour - does society create criminals? - By Phoebe

Recently, I have prepared and submitted an essay to the NCH London Essay Competition. The subject area of the essay I selected was 'Psychology,' and the title: "How could psychology help in understanding criminal behaviour - does society create criminals?" I thought this intertwined perfectly with the theme of the Café Scientifique newsletter this half term, and so I wanted to share some snippets of my argument and findings that I found through the course of completing my essay.

This is taken from part of my introduction:

'Taking Cognitive theories of crime, for example, which explain criminal behaviour as a defect in moral thinking, thought processes and mental development, this helps us to understand how an individuals' personality and level of intelligence are linked to delinquency.¹ I believe society does create criminals and the reason that an individual becomes a criminal is as a result of their environment, and some of the specific catalysts are: substance abuse, financial insecurity, and trauma. From taking into consideration the long-standing psychological debate that is: 'Nature Vs Nurture,' I can assess the different causes of a lack of moral compass. Some may disagree with my view and argue that criminal mindset is hereditary and preconceived from birth, therefore 'nature,' creates criminals. However, others may agree with my argument that one's 'nurture,' and therefore the society in which they grow up creates the attributes of a criminal.'

In the body of my essay, I looked at three factors that I felt lead to the development of increasingly criminal behaviour, outlined within my introduction, which were: substance abuse, financial insecurity, and trauma. I argued that substance abuse was an important indicator that society creates criminals as it catalyses immoral behaviour and encompasses wrong doing.

'Once an individual is engulfed into the loophole of addiction, this can then lead to distorted moral thinking due to a desire to buy more of that addictive substance. Within an American study, it was found that U.S. participants judged an agent who became addicted to drugs as being closer to "a completely different person," than "completely the same person" as the agent who existed prior to the addiction.² This suggests that with substance abuse comes the change in personality, identity and awareness of morality, caused by these drugs being available in society.'

In addressing the second factor, I outlined that financial insecurity 'feeds on itself and accelerates because humans are sensitive to feelings of weaknesses and defeat. Being financially insecure can undermine our basic psychological need for high self-esteem and low stress.³ Diminishing self-esteem and rising stress can cause individuals to lose hope, motivation, and determination - which is a negative way to live.'

Moreover, the third factor addressed was trauma. I indicated that 'trauma is a pervasive problem, which results from exposure to an incident or series of emotionally disturbing or life threatening events and can have lasting adverse effects on the individual's functioning and mentality.⁴ Society creates the stressors that lead to trauma, such as: physical, sexual and emotional abuse; childhood neglect; living with a mentally ill family member; sudden, unexplained separation from a loved one; and more.'

I finished my essay by collating all of the ideas and factors I had raised (within these snippets and I have not included my arguments regarding 'Nature and Nurture' so this may seem out of context,) within parts of the conclusion, I wrote:

'The exploration into substance abuse, financial insecurity and trauma has also opened up other psychological risk factors such as mental illness, and has helped me to promote my belief that one's 'nurture,' and therefore the society in which they grow up, creates the attributes of a criminal,' and: 'In addressing crime, I think to what ever degree you inherit criminal attributes, ultimately, society is what drives a cruel mindset to commit a criminal offence.'

I found this process extremely thought provoking and insightful. I would really recommend taking on an essay competition. Especially if there is a subject area that you do not study within school that you are interested in. I do not study Psychology for A Level, however I have a real passion for researching about it whenever I can.

Also, I would love to study it at university and therefore completing this essay will have helped me to acquired more knowledge of this area of study.

Café Scientifique Event

Key Stage 4 Psychology A-Level Q&A Session with Sixth Formers



When: Wednesday 16th February, 1st Lunch (1.05-1.30)

Where: NGL

Who: Year 10 and 11 who are considering, what to find out more, or have chosen Psychology A-Level

Ms Ostrander and Sixth Psychology A-Level students will be available to answer any questions about the course and what it is like to study psychology at sixth form.

If you are interested in psychology or are thinking about taking it for A-Level – come along!

Merlin Sheldrake – The Entangled Life

Review by Mrs Roebuck

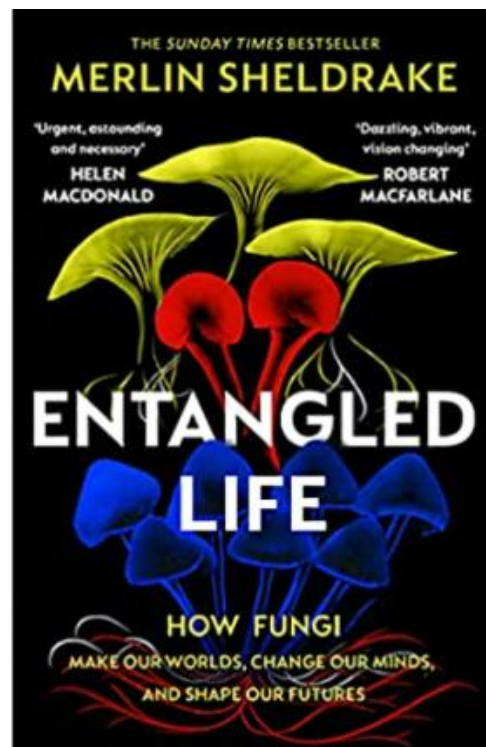
In Merlin Sheldrake's award-winning debut book, you are taken on an unforgettable journey into the fascinating world of fungi. His passion for these overlooked organisms is evident on every page. He goes to extraordinary and amusing lengths to delve into their seemingly magical properties. Truffle hunting, fermenting cider from the fruit of Newton's infamous apple tree, experiencing the mind-altering drug LSD, and being buried up to the neck in a mound of decomposing wood chips are just some of his exploits.

Sheldrake explains how there is much more to fungi than beer, bread and penicillin. He turns the concept of the organism on its head and provides clear evidence of how all organisms are largely co-dependent on fungi having co-evolved with them. Many animals depend on microscopic fungi during digestion to provide essential nutrients; 90% of plants need fungal mycorrhizal to survive and many species of fungi live in co-operative relationships organisms such as termites, leaf cutter ants, bacteria and algae. It is a persuasive and well researched argument.

Turning to the future, Sheldrake outlines research that suggests fungi can provide solutions to many modern-day issues. For example, using psilocybin mushrooms to reduce psychological symptoms in people suffering from anxiety and depression; employing extracts of wood-rotting fungi to combat the deadly varroa mite that has devastated bee populations and ensuring the health of forests (and improve carbon uptake) via the Wood Wide Web created by fungal mycorrhizal networks. Not to mention the extraordinary ability of the *Pleurotus* genus of fungi to digest the most toxic chemicals in the world.

Entangled Life is an eye-opener of a book and will turn your understanding of the natural world upside down. It is an enjoyable read and is a well-deserved winner of the Royal Society's 2021 Science Book prize.

<https://www.merlinsheldrake.com/>



Café Scientifique Newsletter: The Future

We are very excited to announce that next half term's theme will be Physics! If you have anything that you would like us to review or write about, please let us know by sending us an email at either k.oldham@kingshighwarwick.co.uk or o.bussley@kingshighwarwick.co.uk

Essay Competition for L6th Biologists:

The Warwick Group Biology Essay Competition is now open – see your email for details from Mrs Reebye. For this competition, you can select your own title (which asks a biological question) and write 1500-2000 words. Cash prizes to be won!

And coming up next Half Term.....

11-20 March
**British
Science
Week
2022**

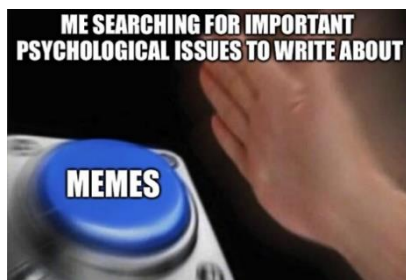
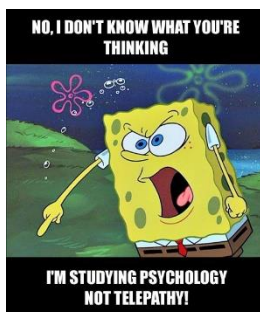


Events at King's will include a Science Fun Festival in the Quad on Friday 18th March, a Cress Head Growing competition and you can enter an independent project into the Warwick School Science Fair. There is also a National poster competition for Science Week – this year's theme is Growth, so get thinking about what you could make a poster about.

Keep an eye out for emails and posters after half term!

Thank you once again for submissions to the Lit & Phil/Cafe Scientifique « Underrepresented voices in STEM » competition. It has been truly amazing to be able to read all of these wonderful pieces of work. Make sure to take a look at the winners' work below. Many thanks go to the psychology classes for articles, reviews and participating in the event on Wednesday.

Memes of the month:



Underrepresented Voices in Science: The Puerto Rican Contraceptive Drug Trials – Evanthe (Year 13)

On 23rd June 2000, the United States celebrated the fortieth anniversary of the approval of Enovid, the first oral contraceptive. From that time, over 200 million women have swallowed various formulations of the contraceptive pill, making it one of the most widely consumed class of drugs in the world. The trials which enabled the conception of this drug, however, are more brutal, sexist and racially motivated than appears on the surface. Puerto Rican women are the unsung heroes - and victims - of this tale, these experiments being enforced upon them with very little information along with the leaders of the operation discounting their complaints of symptoms in a push to get the drug onto US shelves as quickly of possible. As Blakemore argues, 'the pill had a bright future, but its past - one intertwined with eugenics and colonialism - was fraught'.

Success of the preliminary Boston trials for the Pill in 1954 and 1955 left John Rock and Gregory Pincus confident that they had finally developed the first oral contraceptive. Their hopes somewhat faltered, however, as without large-scale human trials, the drug would be unable to receive the FDA approval necessary to bring the drug to market. Not to mention the added difficulty posed by the deeply engrained American legal, cultural and religious opposition to birth control in the 1950s; their prospects for this crucial next step seemed dim. In Summer 1955, Pincus' optimism renewed, however, as he visited Puerto Rico and thought it to be the perfect location for the human trials. A densely populated US territory, where birth control was already widely accepted and prevalent; there were no anti-birth control laws, and there were already 67 clinics dispensing existing methods of birth control, with a large group of women using their services. These factors allowed a sufficient backdrop for the coming drug trials.

Poor and uneducated women were the unwitting target of Pincus' trials, with the motivation to limit the size of their families and a stationary population that could be easily monitored over the course of the trials. Despite the 17% of women in the study who complained of nausea, dizziness, headaches, stomach pain and vomiting, Rock and Pincus dismissed these side effects, believing them to be psychosomatic and instead focussed on the 100% success rate of the contraception. Additionally, the death of at least 3 women during the course of the trials did not warrant any further external investigation, illustrating the inhumane and unconstitutional nature of these trials.

What makes these drug trials so controversial is the lack of information that the women were given, with one stating as she recalled the experiments; "I have difficulty explaining that time to my own grown children. I have very mixed feelings about the entire thing." Women who took the drug knew that it prevented pregnancy but had no idea it was experimental or even that they were participating in a clinical trial. The fact that these women were given 10 milligrams of the drug, compared to the 2.5 milligrams of today, only serves to highlight this lack of care further. To this day, questions linger over whether Pincus and Rock overlooked serious side effects from the original high dosage Pill during trials, in their rush to bring an effective pill to the market.

Not only this, but a great concern of the time was the supposed 'vulnerability' of Third World populations to Communism. Thus, the birth control available, and subsequent trials within Puerto Rico may have had an ulterior motive: to decrease the size of the population in an attempt to aid the economy; the fertility of Puerto Rican women was considered dangerous to the interests of the Capitalist state - thus in need of suppression and control. These trials, therefore, although crucial for the conception of The Pill, may have been racially motivated and, along with the dishonest nature of the experiments, do not create a positive image of U.S. medical involvement in Puerto Rico. The sacrifices of these women, whether chosen or not, are failed to be recognised in the wider cultural debate regarding contraceptive pills, with their voice entirely underrepresented in the traditional and modern scientific narrative.

Underrepresented Voices in Science: Lise Meitner – Charlotte (Year 9)

Lise Meitner was a physicist whose work was instrumental in the discovery of nuclear fission and her findings ultimately led to our understanding of nuclear power. However, sadly she was not credited for her work and her male colleague later won a Nobel prize for the work that she was instrumental in. Prejudice and sexism led to her not receiving the credit she deserved for her findings, she was unjustly overlooked despite her clear contribution.

Meitner was born (in 1878) to Jewish parents in Austria and studied privately to earn a doctoral degree in physics. She attended lectures in Berlin and soon became Max Planck's assistant as well as teaming up with Otto Hahn (a chemist). The two made discoveries about multiple new isotopes and Meitner presented her work on beta radiation in two papers. Meitner and Hahn later moved to the Kaiser Wilhelm Institute working in the department of Radiochemistry (where initially Meitner worked as Hahn's unpaid assistant and was only later given a paid position). Eventually, she managed to gain her own physics section. Together, Hahn and Meitner worked well, and made several discoveries linked to the long-lived isotope of protactinium. Meitner also isolated the cause of the emission from atomic surfaces of electrons defining this signature energy cascade. However, two years later this was also discovered independently by a French scientist (Pierre Auger) and thereafter was named after him (the Auger effect).

When Hitler came to power, Meitner ended up having to flee from the Nazi regime and she escaped to Holland. She worked in Sweden with Bohr and communicated with other German scientists; Hahn included. Meitner and Hahn planned a series of experiments, which Hahn carried out, thereby providing evidence for nuclear fission (the subdivision of a heavy atomic nucleus into two fragments of roughly equal mass). Hahn did not understand the experimental results he'd produced, and it was Meitner and her nephew Otto Frisch that came up with a theory to explain them. Due to the political state of Germany at the time, Hahn subsequently published these without naming Meitner as a co-author.

Meitner and Frisch made multiple other discoveries including the explanation for the inexistence of naturally stable elements past uranium and Meitner was also the first to understand that Einstein's ' $E = mc^2$ ' equation could explain the energy release in atomic decay by converting mass into energy. When Meitner and Frisch published their paper on 'Disintegration of Uranium by Neutrons: A New Type of Nuclear Reaction', they first coined the phrase 'nuclear fission'. Despite all this, Hahn alone received the Nobel prize for Chemistry (1944), Meitner and Frisch were completely overlooked.

The realisation of nuclear fission ultimately led the way to nuclear power and the creation of nuclear weapons, but Meitner herself refused to work on developing the weaponry. She continued her work into atomic research and belatedly received several honours in her later life, including receiving honorary doctorates as well as the Max Planck Medal from the German Physics Society.