WINSTON'S MODEL OF INNOVATION

ELECTRIC GUITAR

Amplification: to be heard over the noise and in larger venues (Atkinson, 2021).

New Sounds: alternative tones, effects, and genres: Blues, Jazz, and Rock n Roll (Atkinson, 2021).

Consumerism and Rock culture:

new dances, new fashions, new methods of self-expression and a new aesthetic (Atkinson, 2021).

Recording Technology: an ideal instrument for studio recording (Atkinson, 2021).

SUPERVENING SOCIAL NECESSITY A departure from acoustic traditions: conservatives were against what they called "immoral, lascivious music" (Martin, 2022)

A symbol of **rebellious youth culture and counterculture movements** (Atkinson, 2021).

#TheBeatles #ElvisPresley
#TheRollingStones #PunkRock

In the Soviet Union, electric guitars were banned (*Beatles* in the USSR, 2009).

THE "LAW"
SUPPRESSION
OF RADICAL
POTENTIAL

FUTURE

PERFORMANCE

TECHNOLOGY

PROTOTYPES

Early Prototypes

George Breed's electrified guitar (1890)

Rickenbacker "Frying Pan" (1931): the first commercially available electric guitar. Gibson ES-150 (1936).

Solid-Body Prototypes

Les Paul Prototype (1940), Paul Bigsby (1948), Fender Esquire (1950), and Fender Stratocaster (1954).

'INVENTION'

Magnetic Pickups

Single-coil (Gribson P-90 in 1946) Humbucking (1950s).

Amplifiers

Tube (1940s) **Solid-state** (1960s)

Body Construction

Hollow-body (1931) with a sound chamber and violin-like f-holes.

Solid-body (1940)

DIFFUSION

Mass Production

producing electric guitars in large quantities and at a reasonable cost was essential for the widespread adoption.

Iconic Brands

Fender: Telecaster and
Stratocaster models became
industry standards.
Gibson: Les Paul models.

SPINOFFS

Bass guitar
Synthesizers
Guitar effect pedals

IDEATION

George Breed (1890) George Beauchamp and Adolph Rickenbacker (1931) Les Paul (1940) Leo Fender (1950)

SCIENCE

Mechanical vibrations (from the strings) are converted into electrical signals, amplified, and converted back into sound.

Magnetism Electric Current (1752) Electromagnetic Induction (1831)

SOCIAL SPHERE

COMPETENCE

bibliography

Atkinson, P. (2021). Amplified: A design history of the electric guitar. Reaktion Books, Limited.

Beatles in the USSR. (2009, February 13). BBC Radio World Service. https://www.bbc.co.uk/worldservice/documentaries/2009/02/090204_beatles_ussr.shtml

Woodford, C. (2022, March 10). The physics of electric guitars. Explain That Stuff. https://www.explainthatstuff.com/electricguitars.html

Martin, R. (2022, December 7). Electric guitar | Definition, History, & Fender Stratocaster. Encyclopedia Britannica. https://www.britannica.com/art/electric-guitar

Wmg. (2023, December 16). History of guitar amplifiers. Gelvin Guitars. https://gelvinguitars.com/history-of-guitar-amplifiers/