

TRUTH AND POST-TRUTH ACCORDING TO ANNUAL MUSIC CRITICS POLLS

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ABSTRACT

Since 1970's, annual critics polls have influenced record sales and paved paths of popularity for a number of new artists. However, all critics lists include numerous subjective viewpoints. In my research I use statistical tools to get objective values of records in annual critics polls based on independent UK and US sources (1971-2016). I consider music press and the Internet era as well.

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INTRODUCTION. MOTIVATION AND DATA SOURCES

The definition and existence of truth has been researched by philosophers and scientists since the origin of logic (Tatarkiewicz, 1931). There has been a lot of research including theory of measurement in physics or quantum logic, in which the classic definition of truth and falsehood is under the influence of entangled states (Barenco, et al, 1995). The existence of objective truth has also been proven by Edmund Husserl. However, his proof has been done by contradiction (Husserl, 1970). The sentence "the truth doesn't exist" might be written as "the truth is that truth doesn't exist." Apparently, implications like this lead into contradiction. Therefore the existence of truth has been proven.

On the other hand, the existence of truth is not enough to reach objective values of quantity that scientists look for. There has been a lot of research into the question of uncertainty or statistical methods (e.g. Student-t distribution) (Hurst, 2010). Moreover, there is uncertainty principle and quantum logic (Barenco et al, 2005), so even the theory of hidden variables by Einstein, Podolski, Rosen that has considered variables in quantum mechanics classically (objective and real, but unreachable by certain measurement simultaneously) has been finally false (Weihs et al, 1998).

In my research, I start looking for objective values of music records from an economic point of view, which has importance, because quality of product has impact on sales in commodity markets. Statistical properties of the global phono-

graphic market (including music genres, popularity spread and collective behaviour of customers) has been already investigated well by methods of econophysics where the value of an artist is defined by weekly albums sales (Buda, 2012). In general, trajectories of product life-cycle (Fig. 1) may be described by stages (Stark, 2004) that involve all the participants (innovators, early adopters, early majority, late majority and laggards).

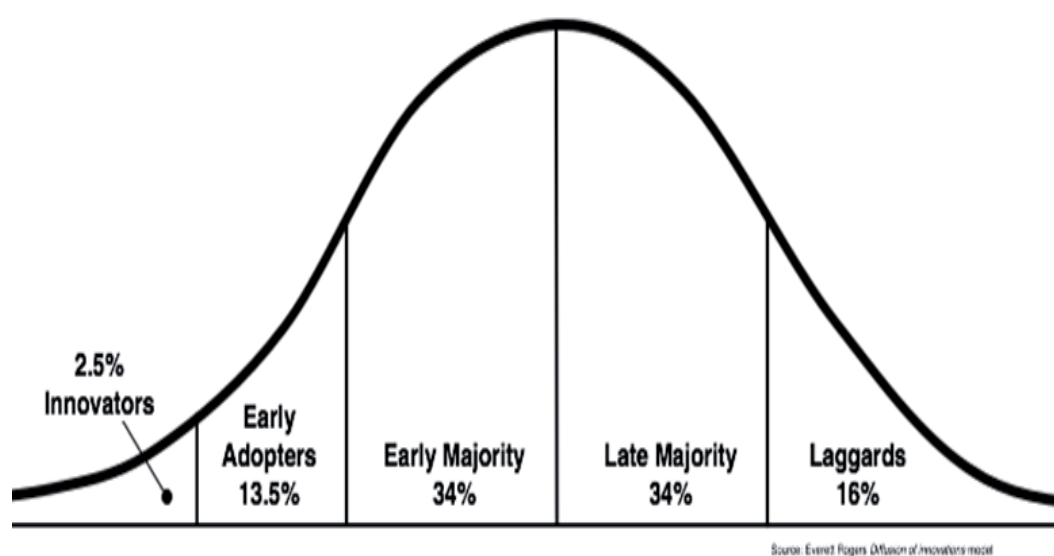


Fig. 1. Product life-cycle

Source: Rogers, 1995.

In phonographic markets, quality of albums and singles defined by the music press in reviews and annual critics polls does not always give big global record sales because critics polls have impact on early adopters only. The other stages of product life-cycles might depend on promotion, market size, geographical and cultural distances between countries and network structure (Buda, & Jarynowski, 2015).

Annual critics polls (that include the list of best albums and singles of the year chosen by journalists) have discovered new artists and become popular in the UK and US music press since the early 1970s (however, there is a number of annual readers polls and reviews given by individual opinions in the music press of the 1960s). The 21st century provides us additional critics polls given by Internet websites (Buda, 2006).

In this paper, I consider music value as objective and annual critics polls as subjective. Therefore, the 'objective' value of music might be measured from different points of view and the only issue that I deal with is finding the optimal way of measurement.

METHODS AND RESULTS.

Firstly, I take the existing annual critics polls as the source of my observations. For example, there are only 3 available critics lists of the best albums of 1974 given by Village Voice (US), Rolling Stone (US) and New Musical Express (UK).

NEW MUSICAL EXPRESS:	VILLAGE VOICE:
1. Pretzel Logic - Steely Dan	1. Joni Mitchell - Court And Spark
2. It's Only Rock ,n' Roll - Rolling Stones	2. <i>Steely Dan - Pretzel Logic</i>
3. Before The Flood - Bob Dylan	3. Randy Newman - Good Old Boys
4. 461 Ocean Boulevard - Eric Clapton	4. Stevie Wonder - Fulfillingness' First Finale
5. Todd - Todd Rundgren	5. <i>Rolling Stones - It's Only Rock 'N Roll</i>
6. On The Beach - Neil Young	6. <i>Bob Dylan & The Band - Before The Flood</i>
7. Rock Bottom - Robert Wyatt	7. Roxy Music - Stranded
8. <i>Fulfillingness First Finale - Stevie Wonder</i>	8. Jackson Browne - Late For The Sky
9. Country Life - Roxy Music	9. <i>Eric Clapton - 461 Ocean Boulevard</i>
10. Average White Band - Average White Band	10. New York Dolls - In Too Much Too Soon
11. Future Days - Can	11. Linda Rondstadt - Heart Like A Wheel
12. Smiler - Rod Stewart	12. Gram Parsons - Grievous Angel
13. Secret Treaties - Blue Oyster Cult	13. Raspberries - Starting Over
14. Maria Muldaur - Maria Muldaur	14. Bryan Ferry - These Foolish Things
15. Another Saturday Night - Various	15. <i>Ry Cooder - Paradise and Lunch</i>
16. Sold American - Kinky Friedman	16. <i>Average White Band - Average White Band</i>
17. On The Border - Eagles	==. Velvet Underground - 1969 Velvet Underground Live
18. Court And Spark - Joni Mitchell	18. Bob Dylan - Planet Waves
19. Odds And Sods - The Who	19. Eno - Here Come The Warm Jets
20. Kimono My House - Sparks	20. Van Morrison - It's Too Late To Stop Now
21. Okie - J.J. Cale	
22. <i>Grievous Angel - Gram Parsons</i>	
23. Radio City - Big Star	
24. Mysterious Traveller - Weather Report	
== Sheer Heart Attack - Queen	
== Big Fun - Miles Davis	
27. Rock 'n' Roll Animal - Lou Reed	SOUNDS
28. Deal Gone Down - Michael Chapman	No combined ranking - just 12 writers with their selections of 22 albums. Thus I take the average position that is equal 11,5
== I Want To See The Bright Lights Tonight - Richard And Linda Thompson	
== It's Too Late To Stop Now - Van Morrison	
31. Teasin' - Cornel Dupree	In Camera - Peter Hammill
== Close Up The Honky Tonks - Flying Burrito Brothers	Madrugá - Melanie
33. Feats Don't Fail Me Now - Little Feat	Bad Co. - Bad Company
== Veedon Fleece - Van Morrison	Hydra - Hydra
35. Paradise And Lunch - Ry Cooder	Out Of The Storm - Jack Bruce
== Dreamer - Bobby Bland	<i>On The Beach - Neil Young</i>
37. In Concert - Beach Boys	Before The Flood - Bob Dylan & The Band
== Fear - John Cale	Fear - John Cale
== For Everyman - Jackson Browne	Escalator Over The Hill - Carla Bley
== His California Album - Bobby Bland	Band On The Run - Wings
41. Limited Edition - Can	Piano Man - Billy Joel
42. The Psychomodo - Cockney Rebel	I Can Stand a Little Rain - Joe Cocker
== Good For You Too - Toni Brown	Paradise And Lunch - Ry Cooder
== Live - Marvin Gaye	Stormbringer - Deep Purple
45. Live From Deep In The Heart Of Texas - Commander Cody	Apostrophe - Frank Zappa
46. All American Boy - Rick Derringer	It's Too Late To Stop Now - Van Morrison
== Pretty Much Your Standard Ranch Stash - Mike Nesmith	Second Helping - Lynyrd Skynyrd
== Streetwalkers - Chapman-Whitney	Sheet Music - 10cc
== Keep On Smilin' - Wet Willie	I Want To See The Bright Lights Tonight - Richard And Linda Thompson
== Planet Waves - Bob Dylan	Phaedra - Tangerine Dream
	<i>Court And Spark - Joni Mitchell</i>

- 51. Anthology - Marvin Gaye
- 52. Soon Over Babaluma - Can
- == Spyglass - Greenslade
- 54. Sneakin' Sally Through The Alley - Robert Palmer
- 55. Propaganda - Sparks
- 56. The Shipbuilder - Bob Pegg & Nick Strutt
- == Learn To Love It - Jesse Winchester
- == Guitar Solos - Fred Frith
- 59. Angel's Egg - Gong
- == Good Old Boys - Randy Newman

All these publications look at the value of music from subjective points of view and make mistakes and uncertainties in their measurement. However, it is possible to detect the 'objective' list of best albums of 1974 using median (these albums are matched in italics on each of the lists). Therefore it is possible to detect the 'objective' list of ten best albums of 1974 according to critics polls:

The 'objective' list of the best albums of 1974:

1. Steely Dan - Pretzel Logic
2. Rolling Stones - It's Only Rock 'N Roll
3. Bob Dylan & The Band - Before The Flood
4. Stevie Wonder - Fulfillingness' First Finale
5. Eric Clapton - 461 Ocean Boulevard
6. Court And Spark - Joni Mitchell
7. Neil Young - On The Beach
8. Ry Cooder - Paradise And Lunch
9. Average White Band - Average White Band
10. Gram Parsons - Grievous Angel

Of course, the small number of publications in 1974 might be statistically insignificant, but in following years the development of the music press provides more and more additional publications including current UK publications (NME, Uncut, Q Magazine, Mojo, Kerrang!, Mixmag, Record Collector, Metal Hammer, Clash, etc.), US Publications (Rolling Stone, Spin, The Source, Village Voice, Alternative Press, The Wire etc.). The total number of publications that relate to the music industry in the UK and the US is larger than 30.

On the other hand, there are extinct UK publications (Vox, Melody Maker, Select, Sounds, The Face, The Word, Record Mirror, etc.) that have influenced phonographic markets of 1970s, 1980s and 1990s, but do not exist anymore. For example, the influential Melody Maker critics polls have gone to extremes and their total number of readers has decreased from 250 000 (1980) to 60 000 (1989). The final weekly physical issue of the influential Melody Maker was available at the end of 1999 (9). The case of Melody Maker provides us with the fact that there are economic boundaries of subjective opinion polls and extreme opinions are eliminated naturally. Therefore, the 'objective' lists of best albums and singles are defined by economy too. Here are the best albums and singles according to annual critics polls:

BEST ALBUMS:

- 1974 Steely Dan - Pretzel Logic
- 1975 Bob Marley - Natty Dread
- 1976 Bob Dylan - Desire
- 1977 Sex Pistols - Never Mind The Bollocks: Here's The Sex Pistols
- 1978 Elvis Costello - This Year's Model
- 1979 Talking Heads - Fear Of Music
- 1980 Talking Heads - Remain In Light
- 1981 Elvis Costello - Trust
- 1982 Richard & Linda Thompson - Shoot Out The Lights
- 1983 R.E.M. - Murmur
- 1984 Bruce Springsteen - Born In The USA
- 1985 Tom Waits - Rain Dogs
- 1986 Prince - Parade
- 1987 Prince - Sign O'The Times
- 1988 Public Enemy - It Takes A Nation Of Million To Hold Us Back
- 1989 De La Soul - 3 Feet High And Rising
- 1990 Sinead O'Connor - I Do Not Want What I Haven't Got
- 1991 Primal Scream - Screamadelica
- 1992 Arrested Development - 2 Years 5 Months And 3 Days In Life Of...
- 1993 Nirvana - In Utero
- 1994 Portishead - Dummy
- 1995 Tricky - Maxinquaye
- 1996 Beck - Odelay
- 1997 Radiohead - OK Computer
- 1998 Air - Moon Safari
- 1999 Chemical Brothers - Surrender
- 2000 Eminem - The Marshall Mathers LP
- 2001 The Strokes - Is This It
- 2002 Wilco - Yankee Hotel Foxtrot
- 2003 White Stripes - Elephant
- 2004 Kanye West - The College Dropout
- 2005 Kanye West - Late Registration
- 2006 Arctic Monkeys - Whatever People Say I Am That's I'm Not
- 2007 Radiohead - In Rainbows
- 2008 Portishead - Third
- 2009 Animal Collective - Merriweather Post Pavilion
- 2010 Kanye West - My Beautiful Dark Twisted Fantasy
- 2011 PJ Harvey - Let England Shake
- 2012 Frankie Ocean - Channel Orange
- 2013 Daft Punk - Random Access Memories
- 2014 The War On Drugs - Lost In Dreams
- 2015 Kendrick Lamar - To Pimp A Butterfly
- 2016 Beyonce - Lemonade

BEST SINGLES:

- 1974 Aretha Franklin - Until You Come Back To Me
- 1975 Shirley & Co - Shame Shame
- 1976 Thin Lizzy - The Boys Are Back in Town
- 1977 Sex Pistols - God Save The Queen
- 1978 Patti Smith - Because The Night
- 1979 The Jam - Eton Rifles
- 1980 Joy Division - Love Will Tear Us Apart
- 1981 The Specials - Ghost Town
- 1982 Grandmaster Flash & The Furious 5 - The Message
- 1983 Michael Jackson - Billie Jean
- 1984 Prince - When Doves Cry
- 1985 Artist United Against Apartheid - Sun City
- 1986 Prince - Kiss
- 1987 Prince - Sign O'The Times
- 1988 Nick Cave & The Bad Seeds - The Mercy Seat
- 1989 Public Enemy - Fight The Power
- 1990 Deee Lite - Groove Is In A Heart
- 1991 Massive Attack - Unfinished Sympathy
- 1992 Arrested Development - Tennessee
- 1993 The Breeders - Cannonball
- 1994 Beck - Loser
- 1995 Supergrass - Alright
- 1996 Underworld - Born Slippy Nuxx
- 1997 The Verve - Bitter Sweet Symphony
- 1998 Fatboy Slim - Rockafeller Skank
- 1999 TLC - No Scrubbs
- 2000 Azzido Da Bass - Doom's Night (Timo Maas Remix)
- 2001 Missy Elliott - Get Ur Freak On
- 2002 Missy Elliott - Work It
- 2003 Beyonce featuring Jay-Z - Crazy In Love
- 2004 Franz Ferdinand - Take Me Out
- 2005 Amerie - 1 Thing
- 2006 Gnarls Barkley - Crazy
- 2007 M.I.A. - Paper Planes
- 2008 Hercules Love Affair - Blind
- 2009 Animal Collective - My Girls
- 2010 Robyn - Dancing On My Own
- 2011 M83 - Midnight City
- 2012 Frank Ocean - Pyramids
- 2013 Lorde - Royals
- 2014 Daft Punk featuring Pharrell Williams - Get Lucky
- 2015 Drake - Hotline Bling
- 2016 Beyonce - Formation

It is also reasonable to detect the most objective publications according to annual uncertainties defined as standard deviation from the objective positions:

1. Spin (US)
2. Village Voice (US)
3. New Musical Express (UK)
4. Sounds (UK)
5. Rolling Stone (US)
6. Record Mirror (UK)
7. Q (UK)
8. Mojo (UK)
9. Uncut (UK)
10. Melody Maker (UK)

There is a statistical temptation to use weighted measurement for objective sources to obtain more objective and accurate annual lists. However, some of data sources are subjective by definition e.g. Kerrang!, Metal Hammer and Terrorizer devoted to heavy metal, or The Source, Rap Pages and Vibe devoted to hip-hop. Therefore, the raw variety of sources is necessary to obtain the widest spectrum of music.

On the other hand, music magazines are subjective because of ethnic reasons. British, Jewish or Afroamerican journalists have usually promoted their own nationality and race in their annual critics polls, e.g. Oasis has been overrated by Melody Maker and New Musical Express, Rolling Stone and Village Voice have always supported Bob Dylan and black music press has never appreciated white artists. Critics are also dependent on the editors. Therefore American hip-hop magazine The Source has given the highest note (5 microphones) to their editor Ray Benzino.

Moreover, in the Internet era the definition of 'objective' list becomes elusive. There are more and more annual critics polls made by online music magazines like Pitchfork Media, Paste, etc. that may be more influential and prestigious than the traditional, physical music press. In the 21st century the ultimate number of sources is unlimited because online music magazines do not depend on economy (distribution, costs of printing, etc.). Therefore, the statistical and economic conditions of the 'objective' list have been changed and the truth is hard to detect because of statistical reasons. In the Internet era 'objective' lists may reflect so-called post truth that statistically depends on an unlimited number of sources.

From a scientific point of view, this problem might be compared to values of gravity acceleration g measured experimentally in different parts of Planet Earth. For instance, according to official experiments (made by me as well), in Głogów the value of $g = 9,91$ [m/s²] but in Kraków $g = 9,79$ [m/s²]. Both results are given with uncertainty 0,03 [m/s²]. On the other hand, the true value of g computed from gravity theory is equal 9,81 [m/s²]. Therefore, there is no need to use quantum logic or introduce additional logical states (truth, false, neither truth nor false, truth and false) to find complexity in detecting the truth from data sources.

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