



QUARTERLY INVESTOR COMMENTARY  
30 SEPTEMBER 2017

CONTRARIUS GLOBAL EQUITY FUND

## CONTRARIUS GLOBAL EQUITY FUND

The Fund aims to earn a higher Total Rate of Return than the average of the world's equity markets, as represented by the MSCI World Index, including the reinvestment of dividends net of withholding tax ("World Index"). It aims to achieve this without greater risk of loss, over the long-term. The Fund is an actively managed fund, and as such does not in any way seek to replicate its benchmark index, but may instead differ materially from the performance benchmark in order to achieve its objective.

### CONTRARIUS GLOBAL EQUITY FUND AT 30 SEPTEMBER 2017

Total Rate of Return in US Dollars	Class	Since Inception on 1 Jan 2009	Latest 5 Years % Annualised	Latest 3 Years	Latest 1 Year	2017 Year-to-date % Not Annualised	Latest Quarter
Contrarius Global Equity	Investor	18.9	13.6	10.6	8.8	7.5	11.0
Contrarius Global Equity	Institutional	19.4	14.1	11.0	9.3	7.9	11.1
World Index		11.6	11.0	7.7	18.2	16.0	4.8

Past performance is not a reliable indicator of future results.

The Fund's Investor Class shares returned 11.0% for the quarter versus 4.8% for the benchmark MSCI World Index, including reinvested net income. As we have highlighted previously, our investment philosophy is not benchmark cognisant and our portfolios would normally vary materially from the benchmark World Index. The Fund's returns are therefore likely to deviate from those of the benchmark. Investors are reminded that given the long-term, contrarian, valuation-based investment philosophy, there will be times when the Fund will materially underperform its benchmark in the short-term in order to achieve its objective of long-term outperformance.

The Fund remains overweight Energy, Materials, and Consumer Discretionary stocks. In terms of geographic exposure, the Fund continues to be overweight shares in North America and shares outside the major developed markets.

Sector Exposure 30 September 2017	Weighting (%)		Over/(Under) Weight
	Fund	World Index <sup>1</sup>	
Energy	28	6	21
Materials	25	5	20
Industrials	0	12	(12)
Consumer Discretionary	23	12	11
Consumer Staples	2	9	(7)
Health Care	7	12	(5)
Financials	2	18	(16)
Real Estate	0	3	(3)
Information Technology	12	16	(4)
Telecommunication Services	0	3	(3)
Utilities	0	3	(3)
<b>Total Shares</b>	<b>99</b>	<b>100</b>	
Net Current Assets	1	-	
<b>Net Assets</b>	<b>100</b>	<b>100</b>	

<sup>1</sup> Source: MSCI (attention is drawn to MSCI disclaimer in 'Notices')

Geographic Exposure 30 September 2017	Weighting (%)		Over/(Under) Weight
	Fund	World Index <sup>1</sup>	
North America	81	63	18
Europe	5	24	(19)
Japan	1	9	(8)
Asia ex-Japan	2	2	0
Other	10	3	7
<b>Total Shares</b>	<b>99</b>	<b>100</b>	
Net Current Assets	1	-	
<b>Net Assets</b>	<b>100</b>	<b>100</b>	

<sup>1</sup> Source: MSCI (attention is drawn to MSCI disclaimer in 'Notices')

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Contrarius Investment Management  
Limited

SUB-INVESTMENT MANAGER  
Contrarius Investment Management  
(Bermuda) Limited

INVESTMENT ADVISOR  
Contrarius Investment Advisory Limited

DEPOSITARY  
BNP Paribas Security Services Dublin  
Branch

## TECK RESOURCES

Teck Resources is not new to us—the Fund started buying it in March 2015, and it has already contributed substantial performance. Teck is a low-cost supplier of three materials with promising futures: coking coal, zinc, and copper. Despite its recent performance, we continue to find its unique combination of low valuation, bright prospects, and good management compelling, and it remains a sizeable position in the Fund.

### *Met Coal*

Coking, or metallurgical (“met”), coal was used in 1642 as a wood substitute to roast grain for brewing. By affording a lighter roast it allowed for the invention of “pale ale”. Charring high-purity coal removes the sulphur compounds, which otherwise would ruin the taste. In 1709, coking coal was used for much the same reason (i.e. purity) to extract iron. Iron ore is mostly iron oxides (haematite and magnetite). When coke burns inside a blast furnace, it releases not only heat but also highly reactive carbon monoxide, which steals oxygen from the iron oxide to form carbon dioxide, leaving behind cast iron.

Cast iron has a high carbon content, around 4%. Carbon tends to make iron harder but also more brittle, so it is removed to form various grades of iron: wrought iron (high purity, soft, good for decoration but not for structure), mild steel (up to about 0.25% carbon, broadly useful), high-carbon steel (up to about 1.5% carbon, hard and brittle, used for tools). The casual use of the terms ‘steel’ and ‘iron’ overlap. Steel is essentially any iron-based alloy. Iron is a remarkably versatile material and can have many desirable characteristics when alloyed with chromium, nickel, vanadium, and molybdenum, for example. These specialty alloys, including stainless steel, are typically more expensive than the simpler carbon steels.

Coking coal differs in two main ways from the much more abundant thermal sort: it has a low level of impurities (mainly ash and sulphur); and it has certain mechanical attributes (e.g. crushing strength) to ensure that it can survive the violent conditions inside the furnace without impeding the flow of gases. Only coal with these rigorous specifications can fuel the high-capacity, high-efficiency blast furnaces that made the Industrial Revolution possible.

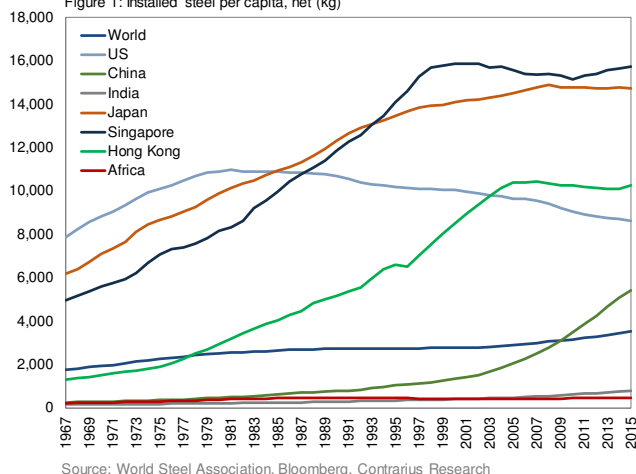
Hard coking coal ended the quarter selling for about \$191/tonne. From 1995 to 2005 the benchmark contract price stuck tightly to \$45-\$55/tonne. It is tempting to conclude that \$191 must therefore be too high. But there are a few reasons that it is more nuanced than a superficial regression-to-the-mean:

- The 1990s was the bottom of a commodities cycle. Coking coal prices are not available before this but other materials with longer price histories had been in a long bear market.
- There was no spot market in 1995. Contracts were individually negotiated and not available for public scrutiny. It’s hard to tell how informative these reported prices are.
- China now consumes half of the world’s met coal. Its steel output is more than eight times what it was in 1995.
- Supply is concentrated, with 63% of traded supply coming from Australia.
- Met coal has complex supply/demand dynamics. The world produces about 1,100 Mt annually, but only about 300 Mt is traded, with the rest being consumed locally. Small changes (for example, a blip in a big consumer’s volumes) can have an exaggerated impact on the benchmark seaborne market. This makes the cost curve unstable.

Indeed, prices have been volatile. After its sedentary decade from 1995 to 2005, it rocketed to about \$300 on three occasions (2008, 2011, and 2016/2017) and in between collapsed to between \$74 and \$129 (2010, 2015). The industry has reformulated its pricing mechanism to address this but the balance remains precarious.

Development of Infrastructure

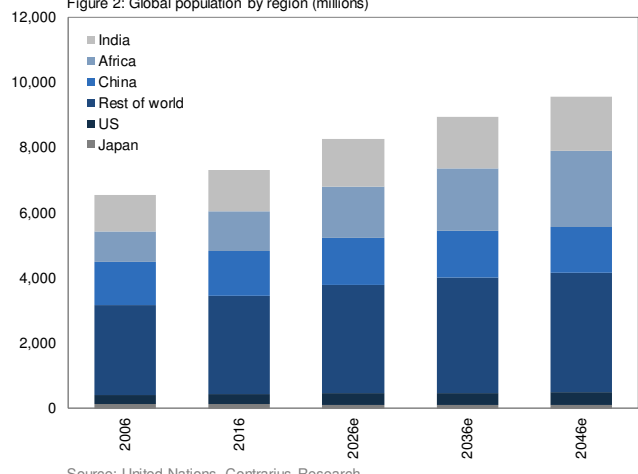
Figure 1: Installed steel per capita, net (kg)



Source: World Steel Association, Bloomberg, Contrarius Research

Global Population Trends

Figure 2: Global population by region (millions)



Source: United Nations, Contrarius Research

India in particular is likely to strain supply (Figure 1 and Figure 2). In terms of installed steel per capita, India was in 2015 where China had been in 1992. The US has 11 times as much steel per person, and China has 7 times. India has a big and growing steel industry but, unlike the US and China, it has little coking coal and we expect it to rely on imports. To reach China's current level of installed steel by 2040, we estimate it would need to import a further 220 Mt of coking coal per annum (i.e. 73% of the current seaborne supply). Africa, expected to be more populous than either India or China within six years, has even further to catch up.

Teck's mines are clustered in relatively mining-friendly Western Canada, and have an expected life of more than 30 years. The highly dynamic market environment makes it hard to pin down a "normal" price. But it is notable that there were a number of bankruptcies and closures when the average price for 2015 fell to about \$100 per tonne. Teck is well within the lower half of the cost curve and even at those prices, which we believe to be unsustainably low, we expect it would generate substantial free cash flow.

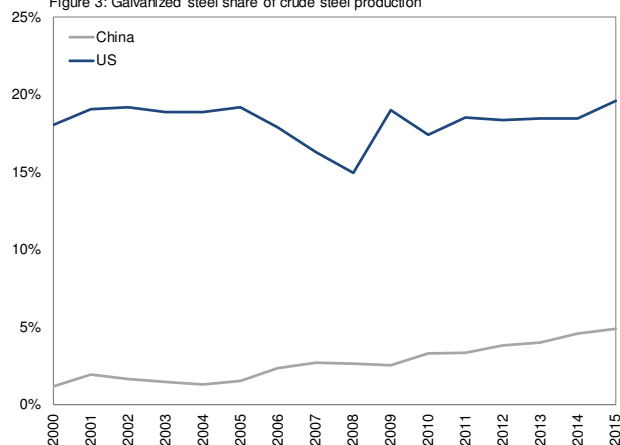
## Zinc

One of the main problems with iron is that it rusts. A zinc coating protects it in two ways. Firstly, it forms a physical barrier. When the zinc barrier corrodes, it turns into a tough, abrasion resistant, and insoluble patina, sheltering the metal underneath. Secondly, zinc is more reactive than iron. So even if the coating is scratched, the corrosive substance prefers to bind to the zinc, making it a "sacrificial anode". (Curiously, Luigi Galvani, after whom this process of "galvanising" is named, didn't have much to say on the topic and is known instead for discovering bioelectricity when a frog he was dissecting twitched.) The importance of protecting steel has made zinc into the fourth most consumed metal.

Not all steel needs to be galvanised. You can paint it (usually cheaper in the short term, but more expensive in the long term) or alloy it with other materials to make "stainless steel" (more expensive). Per tonne, at quarter end, hot rolled mild steel costs \$617 and hot-dipped galvanised coil \$862, whereas the 304 grade (one of the cheaper grades) stainless hot-rolled coil is about 2.6x the price at \$2,242. In the US the share of galvanised steel has been stable around 18%-19%, while in China it has increased steadily from about 1% to 5% (Figure 3) over 15 years. Despite this low level, China was short of zinc and rapidly developed its own mines that were smaller, less efficient, and more polluting than the global leaders. Chinese ore production grew more than 400% from 1995 to 2013, and the imbalance between China's reserves and its production is clear in Figure 4. Many of these are being shut down, largely for environmental reasons, and Chinese production has since started to trend down.

**Use of Galvanized Steel**

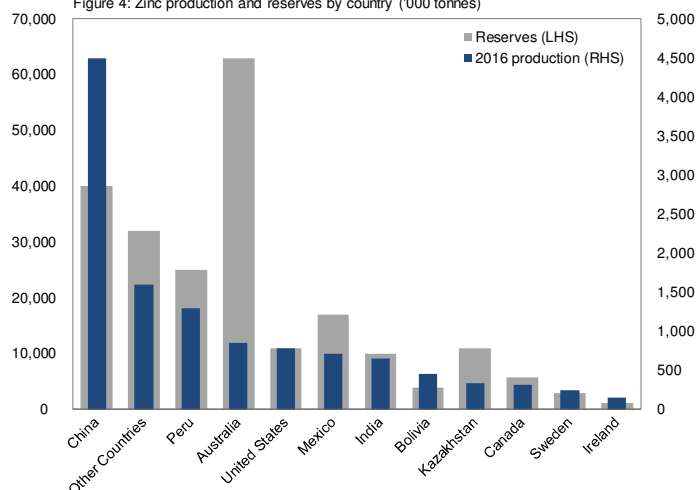
Figure 3: Galvanized steel share of crude steel production



Source: Teck Resources, Contrarius Research

**Mismatch Between Zinc Reserves and Production**

Figure 4: Zinc production and reserves by country ('000 tonnes)



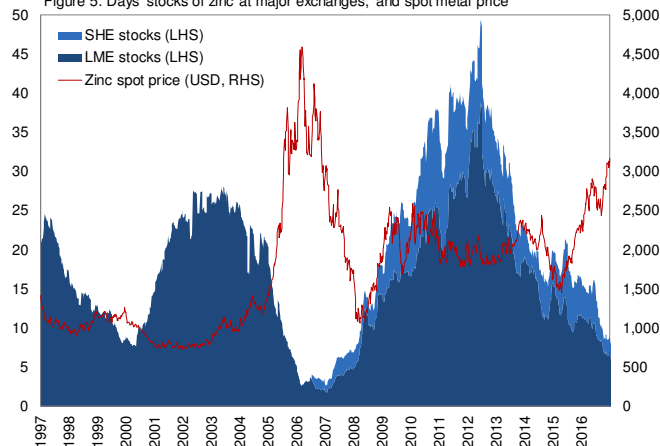
Source: U.S. Geological Survey, Contrarius Research

Teck operates two of the six largest zinc mines, including Alaska's Red Dog, the biggest. Red Dog also has the highest grades of the large mines. As a result, Teck is low on the cost curve. The industry has, overall, been well managed. In 2015 Glencore, unsatisfied with market prices, unilaterally idled 500 kt, nearly 4% of global supply.

Planned projects are being delayed, inventories are close to historic lows (Figure 5), and the market remains in deficit (Figure 6). The zinc price has already responded to some extent. But the usefulness of the metal and the building tightness of the market are promising for Teck.

**Zinc Inventories**

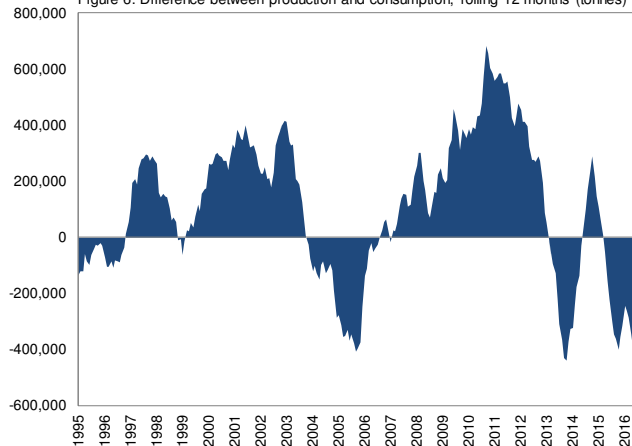
Figure 5: Days' stocks of zinc at major exchanges, and spot metal price



Source: Bloomberg, Contrarius Research

**Zinc Market Balance**

Figure 6: Difference between production and consumption, rolling 12 months (tonnes)



Source: Bloomberg, Contrarius Research

**Copper**

Copper is an unusually useful mineral, including: excellent electrical conductivity; good malleability, and ductility, making it easy to work with; corrosion resistance; high thermal conductivity; low thermal expansion; and resistance to deformation. It shares many of these with silver and gold, which shouldn't be terribly surprising since they sit immediately below copper on the periodic table. (Some atoms like to share their electrons. Others like to steal electrons. This is primarily a result of the shape of the outer electron shells. The affinity for electrons is largely responsible for how an atom responds to other atoms, and is therefore a key determinant of the element's chemical properties. Elements in the same group – Group 11 in this case – have similar electron configurations in the outer shells.) Clearly, being about 1/80 the price of silver and 1/6,000 the price of gold gives copper some advantages. Growing use of copper launched the Bronze Age when alloying it with tin and zinc was found to make a harder, stiffer metal.

Copper has two main uses: (1) carrying electricity in generators, machines, wiring, and electronics; (2) as a construction material, especially where waterproofing is important, because of its light weight, durability, and malleability. Its unique range of attributes make it especially tricky to replace and it is hard to imagine how developing countries can urbanise (or how developed countries can refresh their infrastructure) without heavily consuming copper. Aluminium is also a good electrical conductor and is a third of the price (per kg), and so it is used instead in some circumstances, such as overhead power lines. But aluminium is 68% more electrically resistive than copper (on top of other practicalities) and so these circumstances are limited.

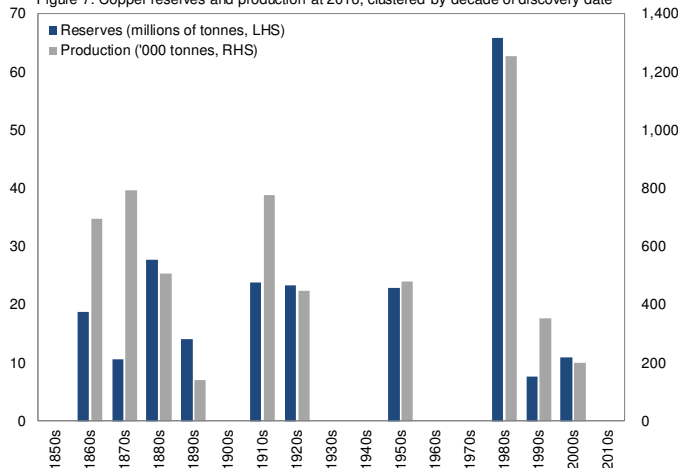
28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.38
46 Pd Palladium 106.42	47 Ag Silver 107.87	48 Cd Cadmium 112.41
78 Pt Platinum 195.08	79 Au Gold 196.97	80 Hg Mercury 200.59

We expect copper's intrinsic link to industrialisation to become even tighter. Compared to the traditional sort, renewable energy is estimated to be 4-12x more copper intensive. An electric car needs about 80 kg of copper compared to 20-25 kg for a combustion engine car, and Bloomberg New Energy Finance expects 60 million electric cars to be sold in 2040.

Taking into account depletion, we likely need 5-10 Mt per annum of new supply over the next decade. To put that into perspective, the Escondida mine in Chile, by far the world's biggest, yields about 1 Mt per annum. Big finds are rare. Of the biggest mines currently operating (i.e. those shown in Figure 7), only one is younger than 21 years (the oldest is 150 years). Of these, the mines discovered more than 29 years ago make up 90% of current production and reserves. There have been a number of small finds in the last decade but they are being converted into economic resources at less than half of historic rates. And the mines that have been built have taken a long time to start up: the average time from discovery to production was about 9 years for mines that began producing in the period from 1985 to 1999, but is about 20 years for the period from 2005 to 2019 (Figure 8).

**Age of Copper Sources**

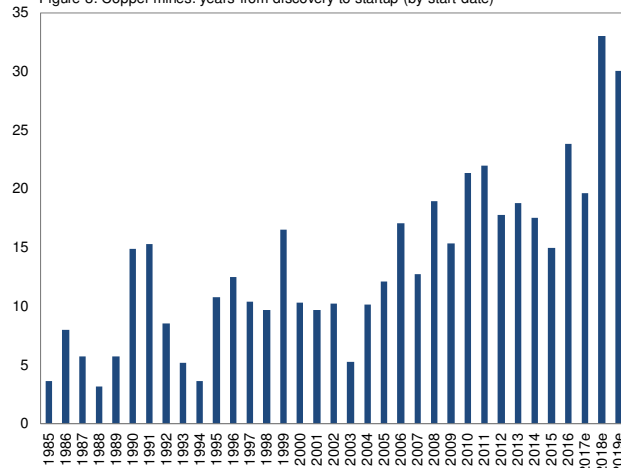
Figure 7: Copper reserves and production at 2016, clustered by decade of discovery date



Source: Freeport-McMoRan, company disclosures, Contrarius Research

**Increasing Difficulty of Developing Copper Deposits**

Figure 8: Copper mines: years from discovery to startup (by start date)

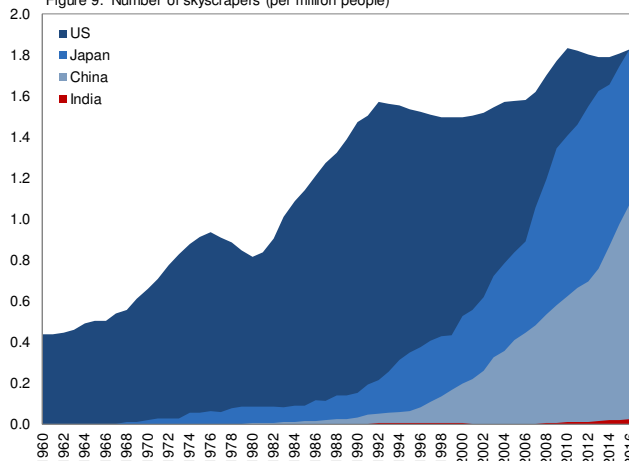


Source: Western Copper & Gold, via Visual Capitalist, Contrarius Research

As with met coal and zinc, we expect that building out (and refreshing) global infrastructure (Figure 9) will test an already stretched market. Freeport-McMoRan, the largest listed copper producer, is also in the Fund's top 10.

**Infrastructure Buildout**

Figure 9: Number of skyscrapers (per million people)



Source: Council on Tall Buildings and Urban Habitat, Bloomberg, Contrarius Research

## CONCLUSION

In addition to its operations discussed above, Teck is at the tail end of an oil sands development. Investment in this project is likely to end up around \$2.9 billion, of which about 85% has already been spent. Once built, extracting oil from these oil sands is cheaper than commonly believed, which is especially notable in this case since it is estimated to have a 50-year life. We estimate marginal costs to be about \$40 per barrel, meaning it should contribute to free cash flow at current oil prices.

From March 2015 to February 2016, credit rating agencies downgraded Teck's credit, ultimately to well below investment grade. Management proved to be astute and shareholder-friendly and it rode out the cycle without issuing shares or selling significant assets. In its April 2015 earnings call, Teck's CEO said, "I would do everything possible not to issue equity", and followed in July with:

*... if commodity prices move in such a fashion against us that our debt-to-EBITDA metric is stressed for the short term and the rating agencies decide, which is their right, to move us out of the investment grade for some time, then there isn't much more we can do to defend that. We will not issue equity to buy back debt to defend the rating... We want to make sure that people understand that we will not issue equity to buy back debt to defend the rating. We will continue to invest in our business and to restore the EBITDA side of that metric... our bias is strongly against issuing equity at all anywhere near these price levels. And if it were for an acquisition it would have to be quite an extraordinary acquisition for us to think that it was so accretive that we would issue equity.*

A rare treat for shareholders! Similar statements followed in September, October, and March. It also spread its debt over many years: only \$1.0 billion (considerably less than one years' free cash flow) is due in the next five years, and the average maturity is 15 years. Teck generates substantial cash at the prices it currently gets, which we think are, overall, likely to go up from here. The rating agencies have started upgrading its credit again.

We believe that Teck is unique in its combination of low-cost reserves, products with promising long-term fundamentals, low geographic risks, well-controlled financial risks, and good management. Yet it sells for a single-digit multiple of expected free cash flow (at both current and normalised prices): perhaps the market lumps it together with producers that are more marginal. Even though Teck is already one of the biggest contributors to performance, and even though we have reduced its weighting, we continue to be galvanised by having it as a top 5 share.



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Performance (net, per calendar year, since inception)	Currency	Best Performance		Worst Performance		Inception
		Year	%	Year	%	Date
Contrarius Global Equity Fund	US\$	2009	94.5	2015	(17.4)	01-Jan-09

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