

BLOCKCHAIN TECHNOLOGY AND MINING PROCESS: HOW DOES POLISH TAX LAW TACKLE THE PROBLEM?

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Abstract

This essay aims to analyze the new phenomenon of the blockchain technology from the perspective of Polish tax law. Beginning with the description of the way blockchain technology operates, the notions of decentralization, proof-of-work consensus, and practical immutability are explained. The author researches the new tax regulations in force in Poland since 1 January 2019 and focuses on revenues from cryptocurrency trading, which are classified as revenues from money capital and revenues from capital gains. The article presents a definition of the disposal for valuable consideration of a virtual currency, explains how high is the income tax on income earned from the disposal for valuable consideration of virtual currencies, and provides an overview of the legislation related to tax deductible expenses. Finally, some reflections on the cryptocurrency trading in the context of the pursuit of an economic activity are given.

Keywords: Bitcoin, virtual currency, blockchain technology, mining, tax law, Polish law, revenues from money capital, revenues from capital gains.

JEL Classification: K23, K41

1. Introduction

The financial crisis that began in 2008 triggered a crisis of confidence in financial institutions and banks². It was then that Satoshi Nakamoto introduced Bitcoin describing it as “a purely peer-to-peer version of electronic cash” that “would allow online payments to be sent directly from one party to another without going through a financial institution”³. Since then, cryptocurrencies turned out to be an invention that has revolutionized the perception of money⁴. They have proliferated rapidly and have created a lot of buzz among investors, in the financial sector and in the media. At the time of writing this article (May 2021), there are 9,825 cryptocurrencies with a total market capitalization of \$2,299,129,506,279. Bitcoin tops the podium in terms of market capitalization (\$942,697,629,477), and Ethereum ranks second (\$463,795,755,342)⁵. Zekos has rightly argued that virtual currency has value only because people believe that others will be willing to accept it in exchange for goods and services⁶. In other words, the crux of the matter is that who is willing to accept the payment⁷.

Bitcoin and other cryptocurrencies are based on the blockchain technology, which is also used to provide systems for the smart execution of contracts. More to the point, there are also plans to expand the blockchains network to cover public services that are currently provided by governments⁸. However, the aim of this article is limited to the analysis of cryptocurrency “mining” from the point of view of Polish tax law.

The article is structured as follows: Part 2 explains how does the blockchain technology

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² Shah, A. (2008), *Global Financial Crisis*, retrieved from <https://www.globalissues.org/article/768/global-financial-crisis> [accessed 23 February 2020].

³ Nakamoto, S. (2008), *Bitcoin: A Peer-to-Peer Electronic Cash System*, p. 1. Retrieved from <https://bitcoin.org/bitcoin.pdf> [accessed 14 May 2021].

⁴ Malherbe, L., Montalban, M., Bédu, N. & Granier, C. (2019), *Cryptocurrencies and Blockchain: Opportunities and Limits of a New Monetary Regime*, „International Journal of Political Economy”, 48, p. 127, DOI: 10.1080/08911916.2019.1624320; Taleb, N. (2019), *Prospective Applications of Blockchain and Bitcoin Cryptocurrency Technology*, „TEM Journal”, 8 (1), p. 48. DOI: 10.18421/TEM81-06.

⁵ Retrieved from <https://coinmarketcap.com/all/views/all/> [accessed 14 May 2021].

⁶ Zekos, G.I. (2019), *Economics and Legal Understanding of Virtual Currencies*, „Banking & Financial Services Policy Report”, 38 (8), p. 6.

⁷ Website coinmap.org shows the map of all the cryptocurrency merchants in the world.

⁸ Appukuttan Nair, D. (2019), The bitcoin innovation, crypto currencies and the Leviathan, *Innovation & Development*, 9 (1), p. 86. <https://doi.org/10.1080/2157930X.2018.1502249>.

function. An understanding of this matter is necessary in attempting to make a legal assessment of proposed research problems. Part 3 provides a definition of a virtual currency in Polish law. Part 4 focuses on the new tax regulations in force in Poland since 1 January 2019, paying special attention to revenues from cryptocurrency trading, which are classified as revenues from money capital and revenues from capital gains. Part 5 relates to cryptocurrency trading in the context of the pursuit of an economic activity. Part 6 offers some concluding remarks.

2. Blockchain technology – what is it? How does it function?

As we read in the judgment of 22 October 2015 of the Court of Justice of the European Union (case C-264/14 *Skatteverket v. David Hedqvist*), the Bitcoin virtual currency is used, principally, for payments made between private individuals via the Internet and in certain online shops that accept the currency. The virtual currency does not have a single issuer and instead is created directly in a network by a special algorithm. The system for the Bitcoin virtual currency allows anonymous ownership and the transfer of Bitcoin amounts within the network by users who have Bitcoin addresses, which may be compared to bank account numbers. In other words, payment in cryptocurrencies does not need a centralised authority, namely government or central financial bank. A peer-to-peer transaction is based on the computer code, where cryptographically secured data is exchanged. Wandhöfer has compared this process to exchanging physical money⁹. But, as Fulmer has logically and systematically explained, beyond decentralization, blockchain is also characterized by proof-of-work consensus, and practical immutability¹⁰.

Reflecting on how transactions are confirmed and validated, it should be highlighted that Blockchain technology is based on the concept of the distributed ledger. The original moment of data creation (an online transaction) is recorded in the blockchain ledger forming the original block. This block and each subsequent transaction is then transmitted to all of the computers (nodes) participating in the blockchain. They perform the role of transaction validators. The blockchain becomes immutable and it is possible to trace blocks back to the original entry. Thus, it would be difficult to falsify a transaction because all the previous transactions would have to be altered as well. Of course, the blockchain provides incentives for users to verify valid transactions since the block validation process requires enormous amounts of computing power. Cryptocurrency is a reward in return for providing computing power, and the engagement in calculations is called “mining”. However, the miners are incentivised only for adding legitimate blocks to the chain. Trust between individuals about validity of transactions is established through the process of solving complex computations, too difficult to tamper with them. It is connected with the previously signaled proof-of-work concept, namely the solutions to complex computations needed to validate a transaction¹¹.

3. Virtual currency in Polish law

In Poland, the only legal regulation expressly referring to virtual currency is the Act of 1 March 2018 on Counteracting Money Laundering and Financing of Terrorism (Journal of Laws 2018, item 723 with amendments). In Article 2(2) point 26 it has introduced the definition of “virtual currency”. It is understood as a digital representation of value which is not:

- a) a legal tender issued by the National Bank of Poland (*NBP*), a foreign central bank or any other public administration body,
- b) an international settlement unit established by an international organisation and accepted by individual countries belonging to this organisation or cooperating with it,

⁹ Wandhöfer, R. (2017), *The future of digital retail payments in Europe: A place for digital cash?*, Journal of Payments Strategy & Systems, 11 (3), p. 250.

¹⁰ Fulmer, N. (2019), *Exploring the Legal Issues of Blockchain Applications*, Akron Law Review, 52 (1), p. 166.

¹¹ Fulmer, N. (2019), *op. cit.*, pp. 167-171; Meth, M. (2019), *Blockchain in Libraries*, „Library Technology Reports”, 55 (8), pp. 7-9; Ruggiero Jr. M.A. (2018), *Cryptocurrencies from the Inside Out*, „Modern Trader”, 544, pp. 69-71; Zozaya, C., Incera, J. & Franzoni, A.L. (2019), *Blockchain: un tutorial*, „Estudios”, XVII (129), pp. 120-126.

- c) electronic money within the meaning of the Act of 19 August 2011 on Payment Services,
- d) a financial instrument within the meaning of the Act of 29 July 2005 on Trading in Financial Instruments,
- e) a bill of exchange or check, and which is exchangeable in the course of trade for legal means of payment and accepted as a medium of exchange which may also be electronically stored or transferred or may be subject to e-commerce.

Clearly, the presented broad definition of a virtual currency embraces cryptocurrencies. Such an interpretation is confirmed e.g. by the Regional Administrative Court in Łódź (judgment of 19 November 2019, I SA/Łd 411/19).

It is noteworthy that virtual currency is classified as a property value. Under the definition in Article 2(2), point 26 of the Act of 1 March 2018 on Counteracting Money Laundering and Financing of Terrorism, property values mean property rights or other movable property or real estate, means of payment, financial instruments within the meaning of the Act of 29 July 2005 on trading in financial instruments, other securities, foreign exchange values and virtual currencies.

Moreover, the question arises as to whether a virtual currency can be treated as a legal tender in Poland. According to Article 227(1) of the Constitution of the Republic of Poland of 2 April 1997 (Journal of Laws 1997, no. 78, item 483) and according to the Act of 29 August 1997 on the National Bank of Poland (Journal of Laws 1997, no. 140, item 938 with amendments), the National Bank of Poland has the exclusive right to issue the currency of the Republic of Poland (Article 4). Banknotes and coins based on Zloty and Grosze are the currency symbols of the Republic of Poland (Article 31), and the currency issued by the National Bank of Poland is the legal tender in the Republic of Poland (Article 32). It follows that virtual currency is not a legal tender in Poland.

4. Cryptocurrency from the perspective of Polish tax law

The new tax regulations in force in Poland since 1 January 2019 have introduced revolutionary changes when it comes to tax acts and virtual currencies. Cases in point are the Act of 26 July 1991 on Personal Income Tax (Journal of Laws 1991, no. 80, item 350 with amendments) and the Act of 15 February 1992 r. on Corporate Income Tax (Journal of Laws 1992, no. 21, item 86 with amendments).

Above all, it should be clearly explained that pursuant to these Acts a virtual currency means a virtual currency within the meaning of Article 2(2) point 26 of the Act on Counteracting Money Laundering and Financing of Terrorism (definition is given above). Thus, comments regarding the Act on Personal Income Tax are also relevant to the Act on Corporate Income Tax.

By the end of 2018, financial gain from cryptocurrency trading was classified as a property right¹². Currently, revenues from cryptocurrency trading are classified as revenues from money capital and revenues from capital gains. More specifically, Article 17(1) point 11 of the Act on Personal Income Tax stipulates that revenue from money capital shall include revenue from the disposal for valuable consideration of a virtual currency, and Article 7b(1) letter f of the Act on Corporate Income Tax sets out that revenues from capital gains shall include revenue from the exchange of a virtual currency for legal tender, goods, services or property rights other than a virtual currency or from the settlement of other liabilities with a virtual currency (see also the above-mentioned judgment of 19 November 2019 of the Regional Administrative Court in Łódź). Importantly, under the Act on Personal Income Tax, revenues from cryptocurrency trading are classified as revenues from money capital even if a taxpayer earns revenue from cryptocurrency trading in the context of the pursuit of an economic activity.

The new Article 17(1) letter f) of the Act on Personal Income Tax establishes a definition of

¹² More: Krysiak, C., Widzyk, D. & Janiszewski, P. (2019), *Opodatkowanie transakcji wirtualnych*, „Przegląd Podatkowy”, 3, pp. 25-26, 30; Prokurat, J. (2015), *Podatkowe aspekty obrotu wirtualnymi walutami*, „Przegląd Podatkowy”, 3, pp. 26-28; Ślępczyński, T. (2019), *Blockchain technology and cryptocurrencies – legal and tax aspects*, „ASEJ - Scientific Journal of Bielsko-Biala School of Finance and Law”, 23 (1), pp. 33-35. DOI: 10.5604/01.3001.0013.2653; judgment of the Supreme Administrative Court of 6 March 2018, II FSK 488/16.

the disposal for valuable consideration of a virtual currency. It shall mean the exchange of a virtual currency for legal tender, goods, services or property rights other than a virtual currency or the settlement of other liabilities with a virtual currency.

Notably, the Act on Personal Income Tax states that revenue from money capital shall include revenue from the disposal for valuable consideration of a virtual currency (Article 17(1) point 11), and that income tax on income earned from the disposal for valuable consideration of virtual currencies shall be 19% of the income earned (Article 30b(1a)). The legislator specifies that income from the disposal for valuable consideration of virtual currencies shall be the difference in a given tax year between the sum of the revenue earned from the disposal for valuable consideration of virtual currencies and the tax deductible expenses (Article 30b(1b)).

As expected, in the light of the Act on Corporate Income Tax, revenue from the exchange of a virtual currency for legal tender, goods, services or property rights other than a virtual currency or from the settlement of other liabilities with a virtual currency shall be considered revenues from capital gains (Article 7b(1) point 6 letter f). Income tax on income earned from the disposal against payment of virtual currencies shall be 19% of the income earned (Article 22d(1)). Income from the disposal against payment of virtual currencies shall be the difference in a given fiscal year between the sum of the revenue and the tax deductible expenses (Article 22d(1)). It is worth stressing that income from the disposal against payment of virtual currencies shall not be combined with other income (revenue) of a given taxable person.

The new regulation embraces also tax deductible expenses. As is apparent from the Act on Personal Income Tax, the tax deductible expenses related to the disposal for valuable consideration of virtual currency constitute documented expenses incurred directly for the acquisition of virtual currency and costs related to the disposal of virtual currency. The above-mentioned tax deductible expenses shall be deducted in the tax year in which they were incurred. However, the surplus of the tax deductible expenses in relation to the revenue from the disposal for valuable consideration of virtual currency, earned in a given tax year, shall increase the tax deductible expenses for the disposal for valuable consideration of virtual currency incurred in the next tax year (Article 22(14-16)). The same considerations are valid concerning the Act on Corporate Income Tax (Article 15(11-13)). Its provisions stipulates that the tax deductible expenses referred to in Article 7b(1) point 6 letter f) shall constitute documented expenses incurred directly for the acquisition of a virtual currency and costs related to the disposal of a virtual currency, including documented expenses incurred in favor of the entities referred to in Article 2(1) point 12 of the Act on Counteracting Money Laundering and Terrorist Financing. And again, the tax deductible expenses referred to above shall be deducted in the fiscal year in which they were incurred. However, the surplus of the tax deductible expenses in relation to the revenue earned in a given fiscal year shall increase the tax deductible expenses incurred in the next fiscal year.

Interestingly, the exchange of a virtual currency for another virtual currency does not bring about consequences from the point of view of income tax.

5. Cryptocurrency trading in the context of the pursuit of an economic activity

As regards cryptocurrency trading in the context of the pursuit of an economic activity, I should refer to the Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (Official Journal of the European Union L 347, 11 December 2006, pp. 1–118, hereinafter: the VAT Directive). In accordance with its provisions, Member States shall exempt transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items, that is to say, gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest (Article 135(1) letter e). Following the interpretation of the Court of Justice of the European Union (the above-mentioned case C-264/14 Skatteverket v. David Hedqvist), Article 135(1) letter e) of the VAT Directive means that the supply of services which consist of the exchange of traditional currencies for units of the Bitcoin virtual currency and *vice versa*, performed in return for payment of a sum equal to the

difference between, on the one hand, the price paid by the operator to purchase the currency and, on the other hand, the price at which he sells that currency to his clients, are transactions exempt from VAT, within the meaning of that provision.

In this judgement the Court of Justice of the European Union has also interpreted Article 2(1) letter c), according to which the supply of services for consideration within the territory of a Member State by a taxable person acting as such shall be subject to VAT. The Court ruled that Article 2(1) letter c) of the VAT Directive must be interpreted as meaning that transactions which consist of the exchange of traditional currency for units of the Bitcoin virtual currency and *vice versa*, in return for payment of a sum equal to the difference between, on the one hand, the price paid by the operator to purchase the currency and, on the other hand, the price at which he sells that currency to his clients, constitute the supply of services for consideration within the meaning of that article.

The Court of Justice of the European Union has explained that Article 135(1) letter d)¹³ and f) of the VAT Directive must be interpreted as meaning that such a supply of services does not fall within the scope of application of those provisions.

The following factual circumstances provide the background to *Skatteverket v. David Hedqvist* case, cited above. Mr Hedqvist wishes to provide, through a company, services consisting of the exchange of traditional currency for the Bitcoin virtual currency and *vice versa*. The referring court states that the transactions envisaged by Mr. Hedqvist would be carried out electronically via the company's website. That company would purchase units of the Bitcoin virtual currency directly from private individuals and companies, or from an international exchange site. The company would then resell the units on such an exchange site or store them. Mr. Hedqvist's company would also sell such units to private individuals or to companies that place an order on its website. In a situation where the client has accepted the price in Swedish Crowns offered by Mr. Hedqvist's company and a payment has been received, the sold units of the Bitcoin virtual currency would be sent automatically to the Bitcoin address indicated. The Bitcoin virtual currency units sold by the company would either be those that it would purchase directly on the exchange site after the client had placed his order, or those that the company already had in stock. The price proposed by the company to clients would be based on the current price on a particular exchange site, to which a certain percentage would be added. The difference between the purchase price and the sale price would constitute Mr. Hedqvist's company's earnings. The company would not charge any other fees. The transactions that Mr. Hedqvist intends to carry out are thus limited to the purchase and sale of Bitcoin virtual currency units in exchange for traditional currencies or *vice versa*.

Before starting to carry out such transactions, Mr. Hedqvist requested a preliminary decision from the Revenue Law Commission in order to establish whether VAT must be paid on the purchase and sale of Bitcoin virtual currency units. In a decision of 14 October 2013, the Revenue Law Commission found that Mr. Hedqvist would be supplying an exchange service effected for consideration. The Revenue Law Commission held, however, that the exchange service was covered by the exemption under Chapter 3, Paragraph 9, of the Law on VAT. The *Skatteverket* (Swedish tax authority) appealed against the Revenue Law Commission's decision to the *Högsta förvaltningsdomstolen* (Supreme Administrative Court) arguing that the service to which Mr Hedqvist's request refers is not covered by the exemption under Chapter 3, Paragraph 9, of the Law on VAT. The referring court wonders whether the transactions are covered by one of the exemptions for financial services laid down in Article 135(1) of the VAT Directive, more specifically, those set out in points d) to f) of that provision. Having doubts as to whether one of those exemptions applies to such transactions, the Supreme Administrative Court decided to stay the proceedings and refer the following questions to the Court of Justice for a preliminary ruling:

1) Is Article 2(1) of the VAT Directive to be interpreted as meaning that transactions in the form of what has been described as the exchange of virtual currency for traditional currency and *vice versa*, which is effected for consideration added by the supplier when the exchange rates are

¹³ Member States shall exempt transactions, including negotiation, concerning deposit and current accounts, payments, transfers, debts, cheques and other negotiable instruments, but excluding debt collection.

determined, constitute the supply of a service effected for consideration?

2) If so, must Article 135(1) [of that directive] be interpreted as meaning that the abovementioned exchange transactions are tax exempt? In response to those issues, the Court of Justice of the European Union ruled as indicated above.

6. Conclusion

In general, there are ambiguous views on the blockchain technology and cryptocurrencies. Opponents of the virtual currency treat Bitcoin as a financial pyramid or a speculative bubble that must burst one day. On the other hand, proponents of this form of payment argue that Bitcoin is a revolution and for the world of finance it is what an e-mail was for traditional postal mail¹⁴. Without seeking to resolve this debate, I have focused on the functioning of the blockchain technology, and some legal problems resulting from tax law.

There are no complex studies available which have been written solely on the subject of mining process from the perspective of Polish tax law. The purpose of this article was to fill this gap by discussing the new tax regulations in force in Poland since 1 January 2019, which are related to the Act on Personal Income Tax, and the Act on Corporate Income Tax. An analysis of these Acts has made it clear that currently revenues from cryptocurrency trading are classified as revenues from money capital and revenues from capital gains. The author positively evaluates such solutions, especially in the context of previous interpretation, according to which financial gain from cryptocurrency trading was classified as a property right.

Furthermore, the article presented a definition of the disposal for valuable consideration of a virtual currency, and then the findings of the study have shown that revenue from money capital shall include revenue from the disposal for valuable consideration of a virtual currency, and income tax on income earned from the disposal for valuable consideration of virtual currencies shall be 19% of the income earned. Moreover, this research should contribute to a better understanding of the new shape of tax deductible expenses.

Finally, the results have indicated that, if analyzing cryptocurrency trading in the context of the pursuit of an economic activity, we should refer to the Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, and to the judgment of the Court of Justice of the European Union of 22 October 2015 (case C-264/14, *Skatteverket v. David Hedqvist*).

Bibliography

1. Act of 26 July 1991 on Personal Income Tax, Journal of Laws 1991, no. 80, item 350 with amendments.
2. Act of 15 February 1992 r. on Corporate Income Tax, Journal of Laws 1992, no. 21, item 86 with amendments.
3. Act of 29 August 1997 on the National Bank of Poland, Journal of Laws 1997, no. 140, item 938 with amendments.
4. Act of 1 March 2018 on Counteracting Money Laundering and Financing of Terrorism, Journal of Laws 2018, item 723 with amendments.
5. Appukuttan Nair, D. (2019), The bitcoin innovation, crypto currencies and the Leviathan, *Innovation & Development*, 9 (1), pp. 85-103. <https://doi.org/10.1080/2157930X.2018.1502249>.
6. Constitution of the Republic of Poland of 2 April 1997, Journal of Laws 1997, no. 78, item 483.
7. Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, Official Journal of the European Union L 347, 11 December 2006, pp. 1–118.
8. Fulmer, N. (2019), Exploring the Legal Issues of Blockchain Applications, *Akron Law Review*, 52 (1), pp. 161-192.
9. Judgment of the Court of Justice of the European Union of 22 October 2015, *Skatteverket v. David Hedqvist*, case C-264/14.
10. Judgment of the Regional Administrative Court in Łódź of 19 November 2019, I SA/Łd 411/19, LEX no. 2761356.
11. Judgment of the Supreme Administrative Court of 6 March 2018, II FSK 488/16, Retrieved from <http://orzeczenia.nsa.gov.pl/doc/C8296DC8B9> [accessed 23 February 2020].

¹⁴ Pasternak, Ł. (2017), *Kryptowaluta i pieniądz wirtualny jako przedmiot przestępstwa z art. 310 § 1 k.k.*, „Prokuratura i Prawo”, 4, p. 77.

12. Krysiak, C., Widzyk, D. & Janiszewski, P. (2019), Opodatkowanie transakcji wirtualnych, *Przegląd Podatkowy*, 3, pp. 25-35.
13. Malherbe, L., Montalban, M., Bédu, N. & Granier, C. (2019), Cryptocurrencies and Blockchain: Opportunities and Limits of a New Monetary Regime, *International Journal of Political Economy*, 48, pp. 127–152. DOI: 10.1080/08911916.2019.1624320.
14. Meth, M. (2019), Blockchain in Libraries, *Library Technology Reports*, 55 (8), 28 pp.
15. Nakamoto, S. (2008), Bitcoin: A Peer-to-Peer Electronic Cash System. Retrieved from <https://bitcoin.org/bitcoin.pdf> [accessed 23 February 2020].
16. Pasternak, Ł. (2017), Kryptowaluta i pieniądz wirtualny jako przedmiot przestępstwa z art. 310 § 1 k.k., *Prokuratura i Prawo*, 4, pp. 77-94.
17. Prokurat, J. (2015), Podatkowe aspekty obrotu wirtualnymi walutami, *Przegląd Podatkowy*, 3, pp. 24-37.
18. Ruggiero Jr. M.A. (2018), Cryptocurrencies from the Inside Out, *Modern Trader*, 544, pp. 67-71.
19. Shah, A. (2008), Global Financial Crisis, retrieved from <https://www.globalissues.org/article/768/global-financial-crisis> [accessed 23 February 2020].
20. Słapczyński, T. (2019), Blockchain technology and cryptocurrencies – legal and tax aspects, *ASEJ - Scientific Journal of Bielsko-Biala School of Finance and Law*, 23 (1), pp. 31-36. DOI: 10.5604/01.3001.0013.2653.
21. Taleb, N. (2019), Prospective Applications of Blockchain and Bitcoin Cryptocurrency Technology, *TEM Journal*, 8 (1), pp. 48-55. DOI: 10.18421/TEM81-06.
22. Wandhöfer, R. (2017), The future of digital retail payments in Europe: A place for digital cash?, *Journal of Payments Strategy & Systems*, 11 (3), pp. 248-258.
23. Zekos, G.I. (2019), Economics and Legal Understanding of Virtual Currencies, *Banking & Financial Services Policy Report*, 38 (8), 20 pp.
24. Zozaya, C., Incera, J. & Franzoni, A.L. (2019), Blockchain: un tutorial, *Estudios*, XVII (129), pp. 113-126.