OXUS-INDUS:
A new typology for Graeco-Bactrian and Indo-Greek coins

Introduction

The historical importance of the coins issued in the Graeco-Bactrian and Indo-Greek kingdoms has long been recognized. From the mid third century BC to the early first century AD, the area of these political entities consisted at various times of parts of modern Afghanistan, Tajikistan, Turkmenistan, Uzbekistan, and Pakistan. The coins produced under the authority of the rulers of these kingdoms have considerable importance for our understanding of the history of the period since they are the best primary historical source. Indeed, with extremely limited literary and epigraphic evidence, in a majority of cases, coins are the only witnesses for the existence of the rulers under whom they were struck.

The earliest issues date from the middle of the third century BC when the satrap Diodotus broke away from his Seleucid overlords to become the first king of what scholars call the Graeco-Bactrian kingdom, while the final issues of the later Indo-Greek kingdom are those of Strato II and his son, who seem to have been active in the very early first century AD. In between just under fifty rulers are known. These sovereigns range from relatively well-known, being referred to in literary sources and known from copious coinage featuring magnificent portraits, to enigmatic kings and queens whose extant coinage is extremely limited. For example on the one hand, one of the best known Graeco-Bactrian kings, Eucratides I, is a ruler mentioned in ancient written sources while his coins survive in large numbers, including the famous twenty stater piece, the largest gold coin minted in Antiquity. On the other hand, rulers such as Telephus, who seem to have issued very few coins featuring unusual images, have left no further trace.

The significance of the numismatic evidence of the Graeco-Bactrian and Indo-Greek kingdoms can therefore not be overstated. Many attempts at historical reconstruction of the period have relied heavily on the coins as a basis for the often fantastical narrative they have created. The most famous examples being the works of W.W. Tarn and A.K. Narain (Tarn 1951; Narain 1957). More recently the problems of approaches, such as attempting to analyze the portraits on the coins to determine the ‘characters’ of the kings, have been highlighted (Guillaume 1990; Holt 2012), resulting in the application of more thorough numismatic

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1 https://numismatics.org/bigr/id/bigr.eucratides_i.4.
methodologies over the past decade. In particular the completion of large scale die studies of the coins of a selection of kings (Bordeaux 2018; Glenn 2020) has demonstrated the potential for further work on the numismatic evidence which is based on a sound methodological footing. Die studies compare all known examples of a coinage to determine which examples, if any, were produced using the same obverse and reverse dies or combinations of them. Such studies, which are useful for understanding a coinage, its relative chronology, and scale of production, are extremely time consuming, however, requiring the collection of large numbers of images of coins, from many different sources, including public and private collections.

While the importance of the evidence of coins for the study of the history of the Graeco-Bactrian and Indo-Greek kingdoms has been acknowledged since the mid-19th century, initially catalogues were based only on the coins held in single institutions (e.g. Gardner 1886; Whitehead 1914). It was not until the mid-20th century that a full typology of the coins appeared (Lahiri 1965). Lahiri is notable for his desire to make clear the uncertainty of even the order in which the kings reigned by organizing them alphabetically in his work. Just under a decade later, Michael Mitchiner published his nine volume catalogue (Mitchiner 1975/1976), which was the first work to include images of each type. Mitchiner also took a broader focus for his catalogue, including not only coins struck before the independence of the Graeco-Bactrian kingdom, but also the issues of the later Indo-Scythian rulers. As such the work presents a more complete representation of the coinage of Central Asia across four centuries, ignoring the somewhat artificial distinctions between the issuing political entities imposed by other modern scholarship. Such an extensive selection of material, however, is not always feasible and the current standard reference work returned to a focus only on Graeco-Bactrian and Indo-Greek coinage (Bopearachchi 1991). Based on the extensive collection of the Bibliothèque nationale de France, Bopearachchi’s catalogue raisonné also included a comprehensive selection of all known types. Bopearachchi was later to catalogue the collection of the American Numismatic Society (Bopearachchi 1998), a volume which is based on his earlier typology. Bopearachchi’s important work remains the standard reference for Graeco-Bactrian and Indo-Greek coinages and has provided the basis for much historical analysis.

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2 See the general summary in Glenn 2022.
The OXUS-INDUS Project

The appearance of each of these previous works had a noticeable effect in invigorating the field of numismatic research at the time of publication and afterwards simply by improving and expanding the presentation of the coins, providing further raw material for historical research. It was the aim of the OXUS-INDUS project to produce a similar effect, along with the new opportunities for presenting and manipulating data afforded by advances in digital numismatics. OXUS-INDUS received two-years of funding (2021–2023) as part of the New Directions in Digital Scholarship in Cultural Institutions program run jointly by the US National Endowment for the Humanities (NEH) and the UK Arts and Humanities Research Council (AHRC). It is a collaborative effort between the American Numismatic Society (ANS), based in New York City, and Oxford University in the UK, comprised of Dr. Peter van Alfen, Dr. Gunnar Dumke, and Ethan Gruber at the ANS, and Prof. Andrew Meadows and Dr. Simon Glenn at Oxford.

The OXUS-INDUS project is a twin-track initiative to push forward the curation of and research into the material culture of Central and South Asia. First, it seeks to produce a much-needed tool for understanding the Graeco-Bactrian and Indo-Greek coinage of Central and South Asia at a formative stage of the transfer of monetary technology into this region. Through the creation of a new typology of this coinage, and the linking to that of multiple specimens from multiple public collections it will enable this important body of evidence to be studied as never before, thereby advancing new research agendas. Second, the OXUS-INDUS project seeks to apply recent advances in Linked Open Data (LOD) approaches that have been developed in other branches of numismatics to an important new area. In the fields of Greek and Roman numismatics, such approaches, focused on the implementation of the Nomisma.org Knowledge Organization System, have led to wholesale changes in methods of working, both for researchers and curators of collections. By providing an online framework for the organization of a large, disparate mass of data across multiple collections in multiple countries catalogued in multiple languages, the LOD-based approach has opened a rich vein of evidence for use by economic historians, art historians, archaeologists and curators. This opportunity can now be extended to colleagues working with the poorly understood coinages of ancient Afghanistan, Turkmenistan, Uzbekistan, Tajikistan, Pakistan, and India. The OXUS-INDUS project seeks not only to replicate success in other areas, but also to build on it with a new development. This project has seen the creation of the first born-digital typology for an ancient
coinage, and has developed a workflow that allows the conversion of this digital product simply and cheaply into a printed volume.

**BIGR: Coins of the Bactrian and Indo-Greek rulers Online**

These objectives have been realized with the launch of Coins of the Bactrian and Indo-Greek rulers online (BIGR), available at [https://numismatics.org/bigr/](https://numismatics.org/bigr/), which presents a new typology of Graeco-Bactrian and Indo-Greek coins compiled by two of the project’s collaborators, Simon Glenn and Gunnar Dumke, in an innovative digital format created by Ethan Gruber using the Numishare framework he has developed, familiar as the basis of many existing digital numismatic typologies, e.g. PELLA ([https://numismatics.org/pella/](https://numismatics.org/pella/)), and Online Coins of the Roman Empire ([https://numismatics.org/ocre/](https://numismatics.org/ocre/)). The use of Numishare allows the integration of Graeco-Bactrian and Indo-Greek coins into the Hellenistic Royal Coinage Union Catalogue ([http://numismatics.org/hrc/](http://numismatics.org/hrc/)), making searches across a wide range of Hellenistic coinages possible for the first time. Hellenistic Royal Coinages (HRC) was developed at the ANS between 2017–2020 with funding from the NEH as a comprehensive online resource for the study of the coinages of various Hellenistic rulers, including the Antigonids, the Ptolemies, and the Seleucids. One objective of the HRC and the OXUS-INDUS projects has been to make the resources available to the widest possible audiences made possible by the ability to select different languages for the interfaces. To that end, Dr Asma Ibrahim (State Bank Museum of Pakistan) provided Urdu translations for the Numishare interface, which have been implemented across multiple Numishare-based typologies.

BIGR includes coins from various international institutional collections, many of which have been digitized for the first time as part of the project. As of April 2023, the Graeco-Bactrian and Indo-Greek coins of the ANS, Ashmolean Museum, Bibliothèque nationale de France, and British Museum are included, consisting of over 5,000 individual specimens. It is planned to expand coverage to include any institutions which would like to submit relevant coins in their collections for inclusion in BIGR. The typology itself, however, aims to cover all varieties of Graeco-Bactrian and Indo-Greek coinage known. Indeed, as discussed below, many new types have appeared since the publication of Bopearachchi’s *catalogue raisonné* in 1991, almost all of which are not represented in public collections.

The question of organizing typologies, and in particular, the question of what constitutes a type is, of course, a vexed one. For BIGR, six criteria are important in how we split types: issuing ruler, denomination, obverse image variation (i.e. king shown wearing a
diadem, or Boeotian helmet), obverse or reverse monogram, legend, and the shape of the coins (round or rectangular). As such it provides a relatively high level of description, omitting many differences between coins which are often identified in the course of die studies. For example, differences in the style of the obverse portrait of various kings between coins are rarely represented by multiple types. One of our main concerns during the creation of BIGR was to ensure that the new typology was one which was simple to use for those who are not familiar with Graeco-Bactrian and Indo-Greek coins leading to the omission of diagnostic features which might be considered subjective. This decision also echoes our hope that the creation of the typology will facilitate further research by bringing together data on coins from many international collections.

By producing the new typology in a digital format, it is possible to provide new features which not only improve the accessibility of the coins, but also offer new opportunities for further research. The integration of BIGR into the Hellenistic Royal Coinages union catalogue allows for the inclusion of Graeco-Bactrian and Indo-Greek coins from BIGR in search results across multiple Hellenistic coinages: Philip II and Alexander III (PELLA: https://numismatics.org/pella/), Seleucid (Seleucid Coins Online: https://numismatics.org/sco/), Ptolemaic (Ptolemaic Coins Online: https://numismatics.org/pco/), and Demetrius Poliorcetes (Antigonid Coins Online: https://numismatics.org/agco/). The ability to search across these coinages allows for many new avenues of research. For example, the appearance of particular deities on coins from across the Hellenistic world and period is now easy to quantify. While Athena appears on over 1,200 types currently included in the Hellenistic Royal Coinages catalogue, an image of Hecate is only found on eight Graeco-Bactrian types, confirming the unusual choice to include her on the coins of Pantaleon and Agathocles. More complex questions can also be investigated. The integration of Nomisma.org concepts in BIGR allows the use of the Nomisma SPARQL endpoint for querying the entire dataset in sophisticated ways.

It should be noted, however, that although BIGR is fully integrated into Hellenistic Royal Coinages, it has been constructed in a unique way, which was dictated by the limited understanding we have of the Graeco-Bactrian and Indo-Greek kingdoms. Throughout the creation of BIGR and the new typology it presents, we have endeavored to make clear the limits of our knowledge of the historical context and information the coins can provide. For example, while initially the bronze coins of the early Graeco-Bactrian kings seem to follow the denominations used by their Seleucid contemporaries, later kings, as well as their Indo-Greek successors, adopted a different system. BIGR therefore makes use of denominations
from *Seleucid Coins* (and by extension URIs used in *Seleucid Coins Online*) for these early coins, while a range of new denominations was created in BIGR for the later examples. These denominations were not given names implying values and, following the example of *Seleucid Coins*, are labelled simply with letters (denomination A–N). More fundamentally, the difficult question of the location of mints has been avoided completely. Although attempts have been made in the past to identify mint cities by the apparent predominant find spots of coins featuring certain monograms, BIGR does not offer any identifications of mints at all. Most importantly of all, BIGR does not include numerical dates for any of the types it includes. It is our opinion that by adding dates for particular issues, or, indeed, rulers, even when prefixed by *circa*, a false impression of certainty may be conveyed. While Diodotus, for example, may have begun to issue coins in 255, 250, or perhaps later, we have listed all of his types as ‘mid third century BCE’, with the hope that such a vague label will highlight the limits of our knowledge of the period.

**Case Studies: The Need for the New Typology**

To illustrate the need for a new typology, we provide below three small samples and compare BIGR with the two last typologies, Bopearachchi’s *catalogue raisonné* (Bopearachchi 1991) and Mitchiner’s *Indo-Greek and Indo-Scythian coinage* (Mitchiner 1975/76).

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Table 1. Comparison of number of types between Graeco-Bactrian and Indo-Greek numismatic typologies

The first three Diodotid kings, Diodotus I and II and Antiochus Nicator (see below), went from 22 types in Mitchiner, to 43 in Bopearachchi, and ended up with 99 in BIGR. The Indo-Greek king Artemidorus had 28 types in Mitchiner, 41 in Bopearachchi and now 62 in BIGR. In this second case, the increase in numbers can be connected to a coin hoard found in
1994 in Sarai Saleh, just a few miles west of Haripur, which is believed to have contained about 2,000 coins of different Indo-Greek kings, among them a majority of coins of Artemidorus (Dar and Jan 2015; Bopearachchi 2015a, 401). The last row gives the combined number of types for all Graeco-Bactrian and Indo-Greek kings: 1,150 in Mitchiner, 1,527 in Bopearachchi and 2,046 in BIGR. It is evident that the last three decades have seen a considerable rise in Graeco-Bactrian and Indo-Greek coins entering the market, emphasizing the need for a new typology (Carrier and Glenn 2018; Glenn 2020, 62–63).

In 2010 Jens Jakobsson proposed the existence of a third Diodotid king named Antiochus Nicator (Jakobsson 2010a). The previous reconstruction of events leading to the Bactrian independence in the middle of the third century BCE had the Seleucid satrap of Bactria, Diodotus I, change the coin types to Zeus on the reverse and the portrait of Diodotus on the obverse, however, keeping the name of the Seleucid king Antiochus II in the legend as to gloss over the breakaway by still acknowledging Seleucid suzerainty (Holt 1999). However, a couple of obverse die links from the Diodotid gold coins with the Antiochus legend to early coins of Euthydemus I made it clear that these coins could not stand at the beginning of the Graeco-Bactrian coin series (Zeng 2013). Therefore, we have decided to follow the Jakobsson-model in BIGR and introduce Antiochus Nicator as the third Graeco-Bactrian king.

Another instance – likewise already suggested by Jakobsson – is the case of the Indo-Greek king Theophilus (Jakobsson 2010b). Coins have been known for quite some time of this king. On the one hand tetradrachms in the Attic weight standard naming a Theophilus Autocrator, on the other hand tetradrachms and drachms following the Indian standard, naming Theophilus Dikaios. Although other kings are known who minted coins on both the Attic and the ‘Indian’ standard, they almost always keep the same iconography on both coin series and do not change their epithet. Another point is the difference in monograms; the monograms used for the coins of Theophilus Autokrator are not found under any other Graeco-Bactrian or Indo-Greek king. Hence, we decided to separate them and have Theophilus I Autocrator and Theophilus II Dikaios.

Regarding the chronology of these kings we hope to be able to provide a more robust chronology for at least for the Graeco-Bactrian kings in the near future; regarding the Indo-Greek kings things are even more complicated. Finding new overstrikes (coins struck using other coins rather than blanks as the planchette leaving the undertype still visible), mostly of Indo-Greek kings, while looking at such a large number of coins for the creation of the typology, enabled us to find several previously unattested combinations of rulers, which are
extremely helpful for a field as desperate as Indo-Greek numismatics in determining the sequence and relative chronology of the kings. Still, there are about a dozen kings that we can only gather in clusters, but cannot ascertain their relative chronology, much less their absolute chronology.

The central aim of BIGR is therefore to present the numismatic material in the most comprehensive way in order to facilitate further research both by numismatists and ancient historians or archaeologists of Central Asia. Since BIGR includes the holdings of the biggest collections of Graeco-Bactrian and Indo-Greek coins (many of which have not been digitized before), it can be used as a starting point for a multitude of further analyses: new die studies of specific rulers, evaluations of weight changes or of the use and spread of different monograms. It is to be hoped that the analytical possibilities offered by BIGR and the HRC framework will lead to new results not only in Graeco-Bactrian and Indo-Greek numismatics but furthermore in future research in the cultural and economic history of Central Asia.

Bibliography


Jakobsson, Jens. 2010a. ‘Antiochus Nicator, the third King of Bactria?’, Numismatic Chronicle 170, pp. 17–33.


