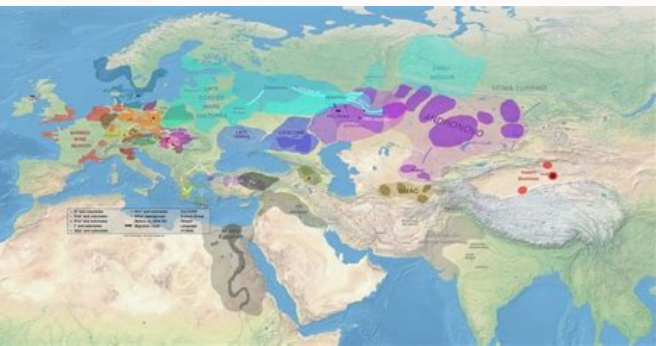
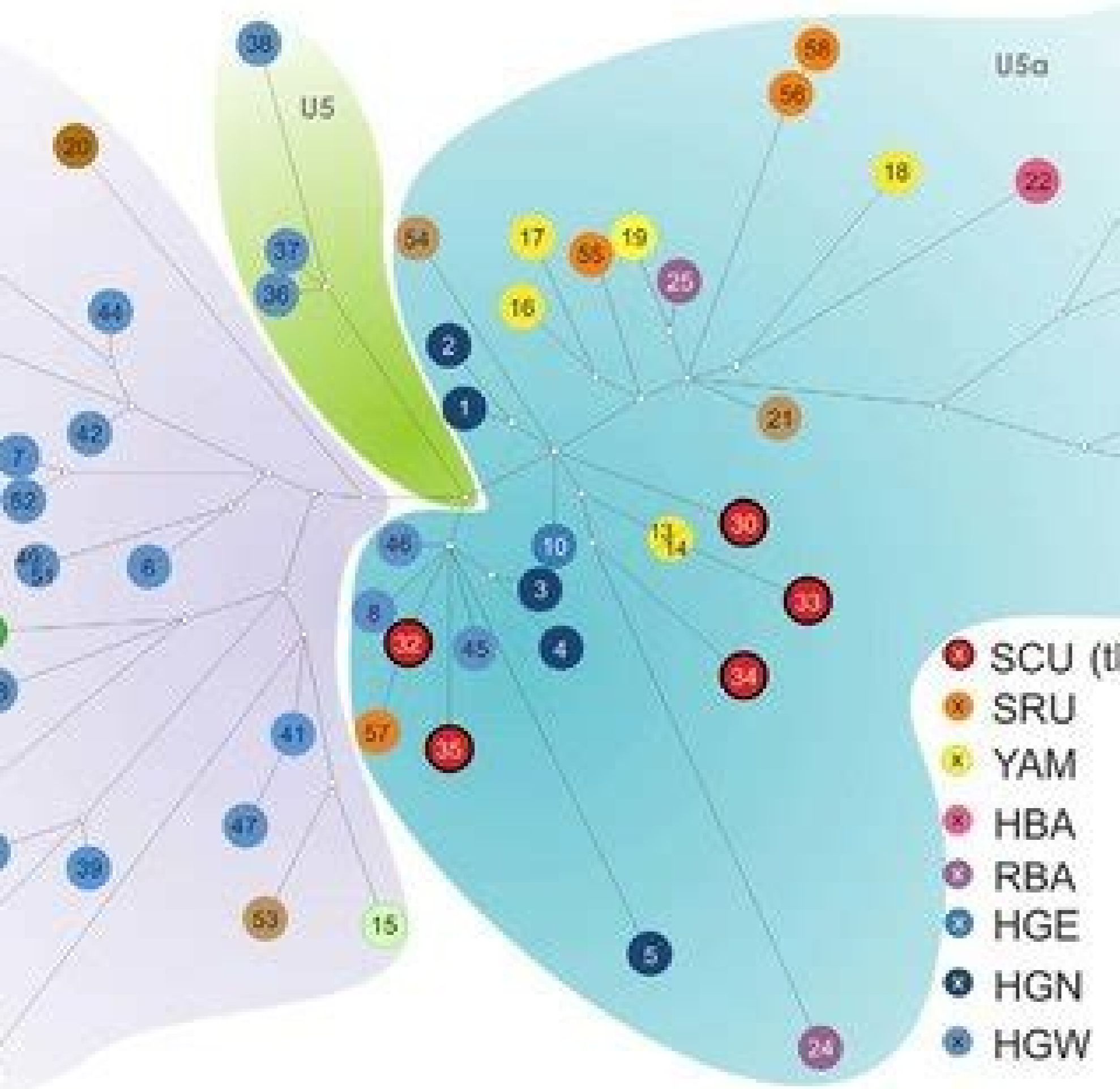
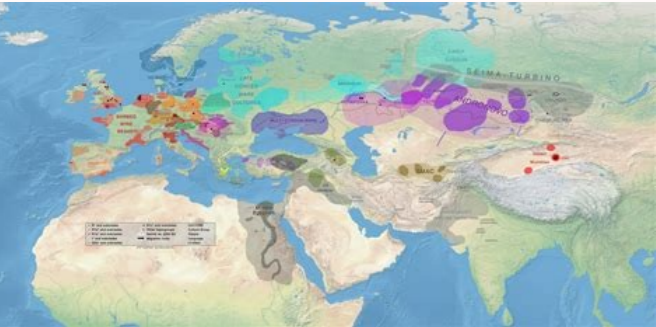


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ANIMAL HERDER-MINERS OF THE ANDRONOVO CULTURE



Hande Özyar Kent

Introduction

The Central Asian Middle Bronze Age culture Andronovo is known to researchers as one of the strong candidates of possible tin suppliers for Near Eastern and Mediterranean civilizations. From the Ural to Yenisey, the culture's area covers millions of square kilometres. It stretches between different climatic zones; including forest steppes, grass steppes, mountainous area, dry steppes and it is even proximate to deserts. Ruins of the Andronovo groups are frequently presented all over this region with a mobile character and strong evidences that they were dealing with metallurgical activities. (Boroffka et al. 2002). Chemykh describes this time period as "the second phase of Eurasian Metallurgical Province" (2008, pp.87-88), which he underlines as "the stabilization of the system". He interprets this development also as a factor for unification of the major cultural features; ceramic tradition, mortuary practices, and the spread of bronze products produced with tin and their appearance in the neighbouring regions.

Animal husbandry played a vital role in this dynamic environment, enabling a mobile lifestyle. Today we know from several mining regions, that the exploitation was going hand in hand with the pastoral practices. Therefore it is vital to understand the herd management and subsistence strategy of the populations to see the picture of land use and its relation with exploitation of metals and pastoral movement of groups.

Mobile Pastoralism

Pastoralism is defined as a mode of production concerned with the exploitation of domestic animals (Abdi, 2003, p.398). Instead of 'village based animal herding', which is practiced sedentary and done to support agriculture, communities which are specialized on mobile form of pastoralism depend primarily on their domestic animals for subsistence and change their location seasonally or inter-seasonally to sustain

the fodder for their herd. In this respect mobile pastoralism is considered as an adaptation strategy, which is developed/practiced towards generally and environments with strong seasonal climate (Hole, 2009, p.261). While the restriction of the climatic conditions can be debated, the movements of traditional Kazakh herders were also following climatic and vegetation changes between their seasonal pastures.

The climate in Eurasia is significant for its continental character. Summers are short and warm, winters are long and below freezing temperatures. The most determinant factor for the Eurasian steppe belt vegetation formation is the annual precipitation values. The variations of precipitation occur in a north-south direction from high to lower values (Woodward, 2008, p.17). Areas receiving less than 300 mm annual precipitation are semi-arid. The growing season for plants (according to photoperiod) is also shorter, and it gets longer towards the south to the desert zone. The duration of snow cover is another important aspect, which has an effect towards the availability of fodder, and thus to the movements of groups. In grasslands of higher altitudes, for example in Eastern Kazakhstan, snow stays on the ground from October to May. Two other aspects are biomass and crude protein yield of the fodder vegetation, so to say the nutrition value, which the herders choose from different zones (Kerven et al.2006).

Traditional Kazakh herders are known to be travelling between these distinct zones and use various movement strategies to take the advantage of them in different seasons (Kerven et al. 2006, p.99). According to this, two main characteristic annual cycles were classified (Ibnîdî, 111). Latitudinal form: South-North-South, starting in spring and travelling a distance of 200 to 2000 km. 2) Vertical form: staying in plains in winter, spring, autumn and travelling to mountains in summer.

Were the climatic conditions the same during the Andronovo-Fedorovka time (2nd millennium BC)? Mid-Holocene is remarkable with climate fluctuations, between arid/humid and cold/warm trends. As we see above, the most important aspect which changes the vegetation zones are the differences occurring in

Group of Bronze Age cultures 2000-900 BC Andronovo cultureGeographical rangeEurasian steppePeriodLate Bronze AgeDatesc. 2000 BC – 1450 BCPreceded byCorded Ware culture, Sintashta culture, Okunev cultureFollowed byKarasuk culture Part of a series onIndo-European topics Languages List of Indo-European languages Extant Albanian Armenian Balto-Slavic Baltic Slavic Celtic Germanic Hellenic Greek Indo-Iranian Indo-Aryan Iranian Nuristani Italic Romance Extinct Anatolian Tocharian Paleo-Balkan Dacian Illyrian Liburnian Messapian Mysian Paeonian Phrygian Thracian Reconstructed Proto-Indo-European language Phonology: Sound laws, Accent, Ablaut Hypothetical Daco-Thracian Graeco-Armenian Graeco-Aryan Graeco-Phrygian Indo-Hittite Italo-Celtic Thracio-Illyrian Grammar Vocabulary Root Verbs Nouns Pronouns Numerals Particles Other Proto-Albanian Proto-Anatolian Proto-Armenian Proto-Germanic (Proto-Norse) Proto-Italo-Celtic (Proto-Celtic · Proto-Italic) Proto-Greek Proto-Balto-Slavic · Proto-Baltic) Proto-Indo-Iranian (Proto-Iranian) Philology Hittite texts Hieroglyphic Luwian Linear B Rigveda Avesta Homer Behistun Gaulish epigraphy Latin epigraphy Runic epigraphy Ogam Gothic Bible Armenian Bible Slanting Brahmi Old Irish glosses Origins Homeland Proto-Indo-Europeans Society Religion Mainstream Kurgan hypothesis Indo-European migrations Eurasian nomads Alternative and fringe Anatolian hypothesis Armenian hypothesis Beech argument Indigenous Aryans Baltic homeland Paleolithic Continuity Theory Archaeology Chalcolithic (Copper Age) Pontic Steppe Domestication of the horse Kurgan Kurgan stelae Kurgan culture Steppe cultures Bug-Dniester Sredny Stog Dnieper-Donets Samara Khvalynsk Yamnaya Mikhaylovka culture Novotitorovka culture Caucasus Maykop East Asia Afanasievo Eastern Europe Usatovo Cernavodă Cucuteni Northern Europe Corded ware Baden Middle Dnieper Bronze Age Pontic Steppe Chariot Yamnaya Catacomb Multi-cordoned ware Poltavka Srubna Northern/Eastern Steppe Abashevo culture Andronovo Sintashta Europe Globular Amphora Corded ware Beaker Unetice Trzciniec Nordic Bronze Age Terramare Tumulus Urnfield Lusitan South Asia BMAC Yaz Gandhara grave Iron Age Steppe Chernoles Europe Thracio-Cimmerian Hallstatt Jastorf Caucasus Colchian India Painted Grey Ware Northern Black Polished Ware Peoples and societies Bronze Age Anatolian peoples (Hittites) Mycenaean Greeks Indo-Aryans Iron Age Indo-Aryans Indo-Aryans Iranians Iranians Persians Medes Parthians Scythians Saka Sarmatians Massagetae Alans East Asia Wusun Yuezhi Europe Celts Gauls Celtiberians Insular Celts Cimmerians Hellenic peoples Italic peoples Germanic peoples Paleo-Balkan Anatolia Thracians Dacians Illyrians Paeonians Phrygians Middle Ages East Asia Tocharians Europe Albanians Balts Slavs Norsemen/Medieval Scandinavians Medieval Europe Indo-Aryan Medieval India Iranian Greater Persia Religion and mythology Reconstructed Proto-Indo-European mythology Proto-Indo-Iranian religion Ancient Iranian religion Historical Hittite Indo-Aryan Vedic Hinduism Buddhism Jainism Sikhism Iranian Persian Zoroastrianism Kurdish Yazidism Yarsanism Scythian Ossetian Others Armenian Europe Paleo-Balkan (Albanian · Illyrian · Thracian · Dacian) Greek Roman Celtic Irish Scottish Breton Welsh Cornish Germanic Anglo-Saxon Continental Norse Baltic Latvian Lithuanian Slavic Practices Fire sacrifice Horse sacrifice Sati Winter solstice/Yule Indo-European studies Scholars Marija Gimbutas J. P. Mallory Institutes Copenhagen Studies in Indo-European Publications Encyclopedia of Indo-European Culture The Horse, the Wheel and Language Journal of Indo-European Studies Indogermanisches etymologisches Wörterbuch Indo-European Etymological Dictionary vte Part of a series on the History of Russia PeriodsPrehistory · Antiquity · Early Slavs Rus' people pre-9th century Rus' Khaganate Arthania Garðaríki 879-1240: Ancient Rus' Rurik · Baptism of Rus' · Russkaya Pravda Novgorod Land 882-1136 Principality of Polotsk 987-1397 Principality of Chernigov 988-1402 Rostov-Suzdal 1093-1157 full list... 1240-1480: Feudal Rus' Council of Liubech · Council of Uvetichi · Mongol conquest · Battle of Kulikovo Novgorod Republic 1136-1478 Vladimir-Suzdal 1157-1331 Grand Duchy of Moscow 1263-1547 full list... 1480-1917: Tsarist Russia Great Stand on the Ugra River · Time of Troubles · Zemsky Sobor · Treaty of Nystad · Petrovian reforms · 1812 Patriotic War · Decembrist Revolt · Emancipation reform · Russo-Japanese War · 1905 Revolution · October Manifesto · Second Patriotic War Tsardom of Russia 1547-1721 Russian Empire 1721-1917 Russian America 1799-1867 Grand Duchy of Finland 1809-1917 Congress Poland 1867-1915 Russian Manchuria 1900-1905 Uryankhay Krai 1914-1921 1917-1923: Russian Revolution February Revolution · Provisional Government · Dvoyevlástiye · July Days · Kornilov affair · Directorate · Constituent Assembly (election) · Bolshevik Coup · Civil War · White Guard · Red Army · Soviet-Polish War · PriamuryeGovt. · War Communism · USSR · Emigrants Russian Republic 1917-1918 General Secretariat of Ukraine 1917-1918 Russian SFSR 1917-1922 Ukrainian SSR 1920-1922 Byelorussian SSR 1920-1922 Transcaucasian SFSR 1922-1922 Russian State 1918-1920 Provisional Priamurye Govt. 1921-1923 full list... 1923-1991: Soviet Era NEP · Cultural revolution · Korenization · Stalinism · Collectivization · Industrialization · GULAG · Great Purge · Great Patriotic War · Cold War · Warsaw Pact · Comecon · Crimetransfer · Era of Stagnation · Afghan War · Perestroika · Chernobyl disaster · KarabakhWar · Parade of sovereignties (War of Laws) Soviet Union 1922-1991 Russian SFSR 1922-1991 Karelo-Finnish SSR1940-1956 full list... Tannu Tuva1921-1944 since 1991: Modern Russia August Coup · Belavezha Accords · Alma-AtaProtocol · USSR dissolution · CIS · "Nearabroad" · Constitutional crisis · Privatization · CSTO · Chechen wars (1st · 2nd) · Oligarchy · Putinism · Five-Days War · Presidential termsamendments Eurasian Economic Union · Ukrainian War (Crimea) · 2020 amendments Russian Federation 1991-present Republic of Tatarstan 1994-present Chechen Republic 2000-present Republic of Crimea 2014-present full list... Timeline860-1721 · 1721-1796 · 1796-18551855-1892 · 1894-1917 · 1917-19271927-1953 · 1953-1964 · 1964-19821982-1991 · 1991-present Russia portalvte Archaeological cultures associated with Indo-Iranian migrations (after EIEC): The Andronovo, BMAC and Yaz cultures have often been associated with Indo-Iranian migrations. The Gandhara grave (or Swat), Cemetery H, Copper Hoard and Painted Grey Ware cultures are candidates for the Indo-Aryan migration into South Asia. The Andronovo culture (Russian: Андроно́вская кы́рпура, romanized: Andronovskaya kul'tura) is a collection of similar local Late Bronze Age cultures that flourished c. 2000-1450 BC.[1][2] in western Siberia and the central Eurasian Steppe.[3] Some researchers have preferred to term it an archaeological complex or archaeological horizon.[4] The slightly older Sintashta culture (2050–1900 BC), formerly included within the Andronovo culture, is now considered separately to Early Andronovo cultures.[5] New research shows Andronovo culture's first stage could have begun at the end of the 3rd millennium BC, with cattle grazing, as natural fodder was by no means difficult to find in the pastures close to dwellings.[6][7] Most researchers associate the Andronovo horizon with early Indo-Iranian languages, though it may have overlapped the early Uralic-speaking area at its northern fringe.[8] Allentoft et al. (2015) concluded from their genetic studies that the Andronovo culture and the preceding Sintashta culture should be partially derived from the Corded Ware culture, given the higher proportion of ancestry matching the earlier farmers of Europe, similar to the admixture found in the genomes of the Corded Ware population.[9] Discovery The name derives from the village of Andronovo in the Uzhursky District of Krasnoyarsk Krai, Siberia, where the Russian archaeologist Arkadi Tugarinov [ru] discovered its first remains in 1914. Several graves were discovered, with skeletons in crouched positions, buried with richly decorated pottery. The Andronovo culture was first identified by the Russian archaeologist Sergei Teplovkhov in the 1920s.[10] Dating and subcultures Currently only two sub-cultures are considered as part of Andronovo culture:[1] Alakul (2000–1700 BC)[2] between Oxus (today Amu Darya), and Jaxartes, Kyzylkum desert Fëdorovo (2000–1450 BC)[11][2] in southern Siberia (earliest evidence of cremation and fire cult[12]) Other authors identified previously the following sub-cultures also as part of Andronovo: Eastern Fedorovo (1750–1500 BC)[13] in Tian Shan mountains (Northwestern Xinjiang, China), southeastern Kazakhstan, eastern Kyrgyzstan Alekseyevka (1200–1000 BC)[14] "final Bronze Age phase" in eastern Kazakhstan, contacts with Namazga VI in Turkmenia Some authors have challenged the chronology and model of eastward spread due to increasing evidence for the earlier presence of these cultural features in parts of east Central Asia.[15] Geographic extent The geographical extent of the culture is vast and difficult to delineate exactly. On its western fringes, it overlaps with the approximately contemporaneous, but distinct, Srubna

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