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A New Approach to Digital Archiving and Data-Sharing in Archaeology: The Timna Valley Wikibase project Erez Ben-Yosef, Eshchar Gichon, Guy Greenberg, Stav Klein, Shani Evenstein Sigalov, Vered Silber-Varod

1. Background

. Timna Valley is one of the oldest and best-preserved copper mining areas in the world.





elting site on hill	34.94819325	
or smelting camp surrounded by a	34.95115341	
elting site with Islamic slag near Slav	34.95030265	
petroglyph near Slaves Hill	34.95054029	
or smelting camp with burials, shri	34.95366269	
ular stone strunctures	34.98295936	
e field	34.96076031	29.73875402
al Nehushtan 5, Slag and installatic	34.99308619	
al Nehushtan 6, installation and sca	34.99382859	
al Nehushtan 4, crushed slags and	34.99463556	
Mine cave, now no archaeology	34.95885238	29.75815509
e galleries with arches	34.98047531	29.74703422
e field	34.938579	29.7497803
e field	34.96081381	29.79785179
e field	34.96391026	29.80056379
e with archaeology near Site 37. Nc	34.95890293	
e field	34.93965871	29.74805044
e field	34.95022399	29.7440026
e field	34.95372778	29.7401031
marks near Site 185 and modern cl	34.95986	
e field	34.93398075	29.77975737
e field	34.94121092	29.78308272
cible smelting	35.00285889	
or camp with slg scatter and struct	34.96168613	
e field	34.96791781	29.80297966
fy	<null></null>	<null></null>

- . Since 2012, a comprehensive study of ancient metal extraction technologies and human activity in hyper-arid regions has been carried out as part of the Central Timna Valley Project (CTV) led by Prof. Erez Ben-Yosef of Tel Aviv University.
- . The research includes extensive surveys and excavations, application of new dating methods and research on technological and social processes in the area from the beginning of activity in the Neolithic period to modern times.
- . The research data is collected digitally.

3. Vision: Database



Stone featues a Stone featues ar Stone featues a Camel petroglyp Stone feature- st Niche graves Cultic site with E Mine field Mine field

34.33074000	
34.96088528	
34.96140231	
34.96088528	
34.9605912	
34.95985728	
34.95968947	
34.95638847	
34.93291013	29.79328688
34.93187832	29.79238264
	34.96088528 34.96140231 34.96088528 34.96088528 34.9605912 34.95985728 34.95968947 34.95638847 34.95638847 34.93291013 34.93187832

https://timna-

database.wikibase

cloud/wiki/Main_Pa

Sites in Timna on Google Earth Documenting blocked mining shafts

Attributes table

2. Data Attributes

Amount:

. About 200 archaeological sites are currently known in the Timna Valley. . Each site is documented by various digital items.

Type:

- . A multi-sheet Excel file of all the archaeological sites.
- . Media folders (> 3,000 photos and videos).
- . Other data (descriptions, bibliographies, etc.).

Location:

Private cloud storage (Google Sheets, Dropbox).

4. Solution: creating a Wikibase for Timna Valley archaeological data

Easy-to-use

- Easy to set up and maintain;
- Easy to update (without technical knowledge);
- Track changes;
- Easy to add new users and monitor their actions;
- Easy to model and flexible to changing needs (compared to rigid ontologies).

Sustainable

- . Well-known and welldocumented technology;
- . Linked to relevant world databases;
- . Easily shared with other researchers;
- . Easy data retrieval;
- . Visualizations of
- information;
- . Easy accessibility and involvement for the general public;

ndom page

about MediaWiki

. Low costs.

- Part of the World Wikimedia Foundation (which also operates the Wikipedia, Wikidata and other projects) • Free (financed and on the servers of the Wikimedia Foundation).
- Includes a full ecosystem dedicated updating, questioning and visualization tools.
- The information items are linked to each other within the database.
- Can be linked to external databases.
- Allows editing restrictions and managing user permissions
- Unlike Wikidata, allows representing non-Notable items and creating custom attributes.

Search Timna Valley Database

5b. Applicative insights so far

Technological debates and examination of

5a. Academic Insights so far

Main Page

- There is no perfect solution;
- Academia needs this kind of innovation, but there are resources issues;
- A body is required within an academic
- institution that will allow trial and error of Navigation this type and bear the financial burden of the Main page resources (human capital) until the solution is Recent changes

to the researcher's satisfaction (e.g., TAU's

TAD Center: https://datascience.tau.ac.il/);

Such processes are essential to bring

archaeology to the forefront of science.

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1 Tim	na Valley Databa	ase
2 Whe	ere to start	
3 Star	ter Queries	
4 Sug	gested Citation	
5 Ack	nowledgements	
6 Pub	lisher Declaratio	on

different platforms;

Learning from other projects in the world so as not to "reinvent the wheel";

A supportive and connected international

community (Telegram channel);

- Human capital (advice from Jinoy Jabob and James Baker);
- There is a need for a groundbreaking

researcher, who will take the risk of teaching the students something beyond the curriculum.